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ABSTRACT

Herein are discussed the conditions that, if met, appear to be favorable to change in institutions of higher education; some of the barriers to change in institutions of higher education; the effectiveness of a number of specific devices for change in higher education; the categories of change that are open to colleges and universities and the broad techniques and strategies that have or have not worked in bringing change to them; and, finally, generalizations on the innovative process. [Reproduced from best available copy.] (Editor)

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ELEMENTS OF INSTITUTIONAL CHANGE PROCESS

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Determining what elements really determine whether or not an institution of higher education can make significant changes in its program has really never been tested experimentally. Hence, it is impossible to set down tested laws or principles in the sense of an approximation of such laws of learning as the Law of Primacy or the Law of Recency. However, it is possible to derive from much case material a number of conditions which, if met, appear likely to bar, prevent or retard change. The first, and in many respects the most significant of these conditions is the presence of presidential or strong administrative leadership. Of the major lasting changes in American Higher Education of the order of the free elective system, general education, or the blending of the Colonial College with the German research-oriented University, the large majority have resulted from presidential interest and presidential ability to persuade or at times coerce a faculty into making the requisite changes. Burton R. Clark in THE DISTINCTIVE COLLEGE (Chicago: Alldyne Publishing, 1970) analyzes Swarthmore, Reed, and Antioch Colleges in an effort to determine what made them so distinctive. While he points out that changing an institution in a distinctive direction is a resultant of many factors and forces, the crucial element of presidential leadership and presidential

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remain as salient. It is significant that after the better part of a lifetime of trying to get rid of departments, Harold Taylor has at last bec ome persuaded of the significance of administrative leadership. Says Taylor:

> All that is necessary to make the conversion from a department to a study and learning center is an enterprising chairman who is seriously interested in education and in students, and enough volunteer departmental members to make up the manpower for the center."

Harold Taylor. HOW TO CHANGE COLLEGES (New York: Holt, Rinehart, and Winston, 1971, p. 132.

At Duke University and Emory University, quite advanced computer simulation planning devices were adopted and made central to the administration of the two institutions, chiefly because the presidents became persuaded that such techniques were essential, and were willing to use some of their limited supply of faculty and subordinate administrative grace to insist on implementation. At Antioch College a radical new freshman year program which in many respects was threatening to the life styles of faculty members was put into operation in large measure because the president was persuaded that change was necessary and was able to maintain the support of his Board of Trustees even when the faculty, or at least an important segment of the faculty, was calling for a vote of no confidence in administrative leadership. Perhaps no Junior College District in the country has been quite so innovative as the Metropolitan District in St. Louis. In large measure this is attributable to the President of that District who was willing to work long hours persuading

faculty and other administrators to be innovative; and at the same time was willing to budget funds to stimulate a variety of activities.

A second condition is simply the presence or absence of technically competent people who can operate effectively a changed procedure. Stephens College, Columbia, Missouri, maintains a varied and vital learning resources center emphasizing considerable use of newer educational technology, such as video tapes, multi-media classrooms and audio-tape recordings. This is made possible because the technical staff of the Center is technically sophisticated and is willing to spend the time to train faculty members in the use of new media. For examp;e, each summer faculty members are paid portions of their salary to work with technical advisers to develop the requisite skills to make effective television performances. The evaluation or testing movement has remained influential at such places as Chatham College, Antioch College, or Michigan State University, while failing in other places because sophisticated psychometricians were appointed and given the necessary financial and administrative support. Currently, the School of Engineering at the University of West Virginia is offering a carefully programmed introductory course in Engineering, required of all students regardless of ultimate major. The course appears well respected by the faculty throughout the school and has attraceed the interest even of the President of the institution. The critical element appears to be the Director of the course who not only was a capable chemical engineer but an individual who had spent the previous five or six years becoming technically proficient in programming educational materials. Without such manifest skills as he had developed, the course at West Virginia might well have

suffered the fate of the countless other attempts to develop programmed learning, by falling into first disrepute and then into disregard before entering oblivion. The converse also is revealing, exemplified by well-conceived elaborate program for providing remedial reading instruction for all entering freshman in a Southern predominantly Negro institution which failed to achieve its goals and was early discarded because those who conducted the program neither were competent with the devices to improve reading nor the techniques of measuring outcomes. Here the concept of institutional research is also instructive. A strong case can be made that each institution wouldbe better off if it had systematic data about the effectiveness of its educational program. However, in the majority of institutions which have attempted to create offices of institutional research, the results have been disappointing. The chief reason seems to be that incompetent people - incompetent, that is, with respect to the techniques of institutional research -- were placed in charge of the operations and quickly lost the good will and respect of other constitutencies on the campus.

A third and somewhat amorphous c ondition, which is nonetheless of critical significance, is simply the matter of institutional readiness. A well conceived and even well implemented change or innovation can fail at one time but be readily incorporated into the life of an institution at another, depending on institutional readiness. For example, the faculty at Keuka College in New York finally became concerned about a consistent attrition rate when enrollment levels became critical to the financial vitality of the institution. Once that realization dawned, the faculty was willing to support the study of ways of retaining incipient dropouts;

and when the study produced convincing evidence, the faculty was willing to impose upon itself a new and time-consuming advising system. Stanford University made a major shift in orientation in the late 1950s from being a strong regional university to a national center of excellence when the faculty, administration, and Board of Trustees sensed that costs were going to escalate; and they could either escalate indiscriminately or be focused to achieve a specific goal. Presently, a number of liberal arts colleges are experimenting with new curricular structures which would have been anathema in the mid 1960s, simply because faculties have finally realized that change or institutional death were the only two viable options. (Of co one can't be sure how many of these changes will be effective, hence other conditions than institutional readiness must be met). In the past, such colleges as Stephens or Antioch achieved national recognition through chan made in order to forestall certain institutional morbidity.

The matter of adequate financing should an obvious condition, yet in the recent past seems to have been ignored or overlooked or under-emphasized in a number of attempted changes. In the 1950s many institution created Honors Programs, programs for the gifted, programs in non-Western Studies and interdisciplinary offerings which currently still are listed in college catalogues but which are virtually inoperative. The principal reason is that faculties were expected to these additional tasks on top of their normal duties. While faculty enthusiasm can maintain a program for a year or two, definite financial subsidy seems imperative if the program is going to be institutionalized so that it will persist. In the 1960s

and early '70s, institutions are also establishing systems of independent study, uses of the media and such things as Black or Ethnic Studies. It can generally be predicted that unless the institution makes definite and substantial proviaion for these innovations, their tenure and effectiveness will be limited. These points can be variously illustrated: At Swarthmore and Wooster, honors and independent study programs have persisted for several decades for a number of reasons, a major one of which is that the institution believed sufficiently in the technique to make major budgetary provision for it. At Michigan State University, the university college persisted over almost three decades because the University created a separate administrative unit with its own appropriated budget of large enough size to insure that the program of general education could compete with other vested interests in the institution. At the University of Michigan at Ann Arbor, a Center for the Improvement of Instruction has existed now for almost a decade and seems a reasonably influential leavening agent, in large part because the Center administers a $25,000. annual budget labeled "The Wolverine Fund." The availability of these funds gives the agency a life which reliance on persuasion or goodwill could never sustain. The record of grants to stimulate innovation made by private philanthropy is replete with examples of well-conceived, adequately operated changes which became moribund once Foundation subsidy was removed. For example, liberal arts college in Arkansas during the 1950s mounted some of the more exciting programs in general wducation which could be found in the country. However,

once Fund for the Advancement of Education money dried up, curricula reverted to earlier and less expensive forms. It seems almost axiomatic that as an institution begins an experiment it should make the commitment (realizing the cost) that if the experiment is successful, sustaining funds will be provided. A minor variation on this financial theme is the need for administrators having responsibility to bring about change, to have discretionary funds which are in no way limited or restricted by departmental or other institutional considerations. At the beginning of the 1970s, a number of institutions such as Stanford or the University of Hawaii are experimenting with a new office, labeled with some variant of a Dean of Undergraduate Studies. These, it is anticipated, will parallel the Dean of Graduate Studies and will seek to improve the quality of undergraduate education. An essential element, if these new offices are to function, is an independent discretionary budget which can be used to encourage innovation and which is large enough so that if an appointment of a specific kind of professor is needed, funds are available without solicitation from departmental sources. It is generally recognized that graduate deans are not particularly powerful administrative officers; yet, in some institutions they have considerable influence, deriving from the fact that they have discretionary funds preserved from overhead costs, from research contracts. This entire matter of the necessity of adequate financing of change throws into sharp relief the necessity for institutions to make at least rudimentary cost benefit analyses. Since all institutions operate on finite budgets,

a decision to allocate significant resources for a new system of advising, for example, means that resources must be withdrawn from perhaps the admissions program, increases in faculty salaries, or other worthy causes.

A difficult condition to describe is institutional ethos. In some institutions effective change is continuously made, largely because change and experimentation is generally expected and accepted. In institutions such as Goddard College, Sarah Laurence, Eastern Illinois State College, Antioch College or Stephens, such radical changes as academic credit for substantial off-campus experience, retraining programs for mature women, team teaching for a commuting undergraduate population, creation of multiple and financially viable branches, or Bachelor's degrees without majors, were all adopted, quickly and without particular faculty protest, simply because the ethos of the campus dictated change as a way of life. This phenomenon may also be observed historically. At the turn of the century, Harvard accepted funds and created the Harvard College house system very quickly at a time when Yale procrastinated concerning the same matter. On analysis it appears that the entire climate at Harvard was at that time open and accepting of change, whereas Yale throughout the 19th century had maintained a spirit of conservatism and protection of long-held faculty prerogatives and perquisites. This matter of institutional ethos of course can not be divorced from administrative leadership. Arthur Morgan, Frank Adylotte, John Hanna and Delight Morris all created a tone of openness and a tolerance for experimentation which made Antioch, Swarthmore, Michigan State University and Southern Illinois University

centers for experimentation and change during their respective administrations.

No substantial innovation or change in collegiate institutions will happen unless the involved people have enough time at their disposal to plan the change and to put it into effect adequately. The Danforth Foundation has been remarkably susscessful over a fifteen year period in producing changes in liberal arts education through the device of summer workshops. These bring together teams from a number of institutions consisting of a principal administrator and three faculty members, and provides them with a period of interrupted time when they can talk about an institutional problem and reach tentative agreements as to what changes are desired and what strategies can be used to produce them. Thus, over the years new courses in the humanities, new advising systems, new faculty organizations, and new Bachelor degree programs have evolved from the leisurely conversations of faculty members at those workshops. The same point was illustrated during the late 1940s at Amherst College which mounted a generallly recognized excellent program of general education, including a highly regarded course in American Civilization. That new program was formulated at the very end of World War II when faculty found unencumbered time after the Army and the Navy removed their ASTP and V 12 trainees from the college campuses. The way that time was used is well described by Cail Kennedy, "AMHERST COLLEGE: THE NEW PROGRAM." At Stanford, a new sequence of interdisciplinary team-taught undergraduate courses in International Affairs came into being when an outside grant allowed five or six faculty members to spend an entire summer talking with each other about the general problems of international education. From those conversations evolved the form and the faculty

commitment to a new kind of undergraduate education. The same phenomenon operated at Carnegie-Mellon University as a result of a Foundation-provided unrestricted grant of $[illegible],000. This was enough to allow a few faculty members the leisure to work out a new program and to develop strategies to create a new undergraduate college to replace the female college abolished at the time of the merger of Carnegie Tech. and the Mellon Institute. Invariably, a faculty which makes great use of television as an instructional device has had adequate time to prepare to use that medium. But time for preparation alone is not sufficient. Unless time for implementation is also provided, the innovation or change will not persist. For example, at the University of California at Irvine, in the Biological Science Department, a promising technique of teaching genetics through computer-based simulation was developed. It was technically competent, adequate time for planning had been provided; but budgetary provision for continuing modification of the system was not provided. Hence, within a year after a rather primising beginning, the experiment had fallen into disuse.

A highly important condition which must be met, if innovation or change are to be effective, is the necessity of a pay-off to those involved. If a new curricular or instructional device is to be accepted enthusiastically by students, there must be a pay-off for them in the form of a radically different sort of experience, a substantial saving in time or some form of significant recognition and visibility. A number of the Honors programs and programs for gifted students alluded to earlier, failed during the 1950s in part because the programs were not substantially different from orthodox

activities except that they required more and more difficult forms of the same tasks. At the University of Miami a new and promising intermediate degree to prepare Junior College teachers has been created and is currently well regarded by students participating in the program. However, it is likely to founder unless a significant change is made in it. Currently, the degree is called "the Diplomate in College Teaching," but the Junior Colleges have not seen fit to recognize that degree with increased salary increments or promotion benefits. Currently, students enroll because the program offers an attractive Fellowship Grant. However, student testimony indicates that unless the name is changed to "Doctor of Arts," which will be accompanied by salary changes, students will not be attracted without the accompanying stipend. But pay-off for students is not sufficient. At Bard College in New York an interesting method of grading themes was developed. Faculty members, instead of marking themes in the typical illegible fashion used a casette recorder to comment in detail about themes, then turned the theme and the casette over to the student who would listen to the criticism at his leisure. Students found this method most helpful, comments were extended and conveyed meaning; and in general the quality of student writing seemed to improve. However, use of the casettes consumed substantially more faculty time in grading themes, and since there was no explicit compensation for the additional expenditure of time, the innovation fell into disuse. This matter of pay-off is well revealed in a simulation planning exercise at Indiana State College in Pennsylvania. The question was whether or not the classroom physical plant could be operated on a

two-shift schedule instead of the normal one. That is, could one schedule begin at seven o'clock in the morning and end at one o'clock in the afternoon, while a second schedule would begin at twelve and end at seven o'clock in the evening. Students and faculty were interviewed and questionnaired concerning the conditions under which they would accept the inconvenience of atypical hours. It was found that faculty members would teach at awkward times if there were salary incentives, and students would accept unorthodox schedules if there were a substantial tuition waiver. The institution decided against the two-shift system when it discovered that the payment of incentive would, over time, amount to more than the cost of creating new facilities. In this same connection, the trimester system has been widely heralded as a means of achieving year-round operation of a college campus. As of 1971, the trimester system has worked at only one institution -- Parsons College in Fairfield, Iowa -- and it worked there chiefly because a substantial pay-off to students who attended the summer trimester. Parsons College enrolled second, third, fourth, fifth and even tenth chance students who were almost bound to find themselves in academic difficulties. The institution maintained a regulation that no student who was on academic probation could re-enter the following fall without having enrolled in the summer trimester. Thus, at the peak of the Parsons bubble, the summer trimester enrolled over 80% of the normal fall enrollment.

An obvious, but frequently uncontrollable condition for the success of innovation and change is the simple continuity of people involved in the program. During the 1930's, the University of Florida at Gainesville

created a new program of general education patterned generally after the program at the University of Chicago. This persisted and attracted considerable national attention during the late 30's and early 1940s, partly because the founding faculty stayed at Gainesville and maintained enthusiasm for the program. After World War II, however, the University began to expand its faculty radically -- hence diluted the effect of the earlier continuous faculty, and the overall significance of the program of general education began to wane. A new system for advising students at the University of Akron which appeared promising at the beginning atrophied when the individual chiefly responsible shifted duties without having adequately prepared and indoctrinated a substitute. The dynamics of this continuity are well described by Clark, op. cit.

> "The most important characteristic and consequence of an organizational saga is the capturing of allegiance, the committing of staff to the institution. Emotion is invested to the point where many participants significantly define themselves by the central theme of the organization. The organizational motif becomes individual motive, much more than a statement of purpose, a cogent theme, a doctrine of administration or a logical set of ideas. Deep emotional investment binds participants as comrades in a cause. Indications of an organizational legend are pride and exaggeration. The most telling symptom is an intense sense of the unique. Men behave as if they knew a beautiful secretthat no one outside the lucky few could ever share. An organizational saga turns an organization into a community, even a cult." p.235.

And unless there are individuals holding such a point of view, the innovation is likely not to persist.

A little understood condition affecting success or failure of innovation is the degree of consistency the proposed change has to existing institutional

structures and practices. The point can be illustrated rather crossly by an example from Ohio University at Athens, which created a system of acceleration for students in Engineering and Education. According to the system, students could accelerate and gain credit at the end of five, ten, or fifteen weeks of class work. Students found they could handle the course work quite effectively in shorter periods of time but that acceleration left them with no other activities available during the semester since the institution generally was not functioning on an accelerated schedule. A number of institutions have recently tried creating new instructional modules of varying lengths of time, from several weeks to a month or several months. For the most part these have not proven successful because the modules were superimposed on an orthodox semester or quarter system. However, the use of modules appears likely to succeed and persist at Colorado College, Colorado Springs, Colorado, because the entire institution has reorganized itself so that all courses will be offered, using various patterns of basic new modules of three weeks each. It is the very consistency throughout the institution which will give force of the modular construction. Cooperative work-study seems to operate well at Northeastern University, Antioch, and the University of Cincinnati, because the system of having students off campus for a time and then on campus is consistent with every other part of the institution. Colleges and universities which attempt cooperative work-study on a limited basis find that the scheduling of off-campus experience interferes with other ongoing activities and hence does not attract the regard it does at the three previously mentioned

places. Systems of common examinations have succeeded reasonably well in institutions offering a prescribed staff-taught program of general education but have failed miserably in institutions offering general education through a distribution system allowing students to meet requirements by electing from any of a variety of courses in a division of the College. Unortodox institutions such as Goddard, Sarah Lawrence, St. Johns, Antioch, Reed, or Stephens seem to exert a powerful influence on the lives of students, primarily because each aspect or part of the institution is consistent with every other part and in total consistent with a prevailing set of beliefs about education. Thus, the free elective system at Sarah La rence, with no prescribed course of study, is consistent with the intensive use of advisors called "dons" and is also consistent with the year-long course which allows a student time to steep herself in the subject. Students at Sarah La rence taking three year-long courses, decided upon in consultation with an advisor, become much more deeply immersed in academic work than if any one of those ingredients were removed.

Of a somewhat different order is the condition of adequate publicity being given an innovation or change. This is a tricky matter as exemplified by Hiram College in Ohio which, during the late 1930s and '40s developed a single course plan. According to this system, students would study one subject intensively for some weeks, then shift to another. Experience proved that the deep immersion seemed to work well for some subjects but not for others such as mathematics or foreign language. The single course plan, however, was newsworthy and was well publicized by a feature article in

TIME Magazine. The College received so much public relations value from its single course plan that it had to maintain the system after the pedagogical values of the plan had come under sharp question. However, publicity and visibility seem still essential. Durking the 1950s in a study of general education, Dressel and Mayhew found that students in programs of General Education which were given a distinctive name and image, such as Basic College or College of General Studies, tended to out-perform students taking similar courses but in an undistinguished manner.

Paul L. Dressel, Lewis B. Mayhew. General Education: Explorations in Evaluation. (Washington: American Council on Education, 1954).

Burton Clark in discussing distinctive colleges finds that early leaders of such institutions developed an ideal, publicized that ideal on every possible occasion to the extent that other people associated with the institution come to see the ideal as reality. The cooperative Work-Study Program at Northeastern University has gained for that institution a great deal of affection from business and industrial circles in Boston, not only because it is educationally sound but because the Presdent of that institution has widely publicized the program and its accomplishments. This very favorable publicity serves to reinforce faculty affection for the scheme.

Also potentially dangerous but still an important condition is the use of oligarchs or powerful and influential faculty members. T. R. MacConnell has established that the faculty decision-making at many institutions rests in the hands of a relatively few powerful faculty members who serve on many committees and who wield considerable power either for change or preservation

of the status quo. So strong are these individuals that they can block effectively any suggested change or reform. However, if the oligarchs become persuaded or become emotionally involved with a change, their very support can insure success of the venture. During the academic year 1970-71, the University of Notre Dame and St. Mary's College conducted discussions about a possible merger. Movement toward that goal, which was favored by the central administration of Notre Dame, was slow with the goal perceived only distantly in the future. However, during late February of 1971, some of the powerful Notre Dame senior faculty members became convinced that a merger was potentially a good thing. With the influence of the oligarchs, combined with the interests of administration and the acquiescence of the administration of St. Mary's College, the merger arrangements were completed in record time; so that by June of 1971

When President John Hanna wanted to create a program of General Education at Michigan State University, he interested several strong faculty members from the School of Agriculture and several from the Department of Mathematics in the Science and Art School, and peevailed upon them to become administrators in the new Basic College. The influence of these oligarchs appear to have been influential in quickly institutionalizing the new structure. Similarly, when James Conant wished to create a program of General Education at Harvard, he enlisted the support of distinguished and influential senior faculty members to serve on the planning committee and actually to offer some of the newly constructed interdisciplinary courses.

Of a similar order is the matter of administrative placement of individuals charged with putting into effect changes and innovations. In one large Western University a highly sophisticated method of simulated planning through use of a computer was developed. The office in charge of this activity was able to generate quite reliable data; but because the office was lodged administratively so that the information never could reach the attention of decision makers, the planning effort had little or any influence over the course of institutional evolution. During the 1950s, at the University of Michigan, Ann Arbor, a seminar for Ph.D. candidates, dealing with problems of college teaching became extremely popular and well regarded throughout the campus. Its originator had taken the precaution to make the course responsible to an all-university committee rather than lodging it, as would be logical, in the School of Education. He theorizes that had the course been offered under the auspices of the School of Education, the generally widespread bias against Schools of Education would have jeopardized the future of the course no matter how pedagogically sound.

Of a different order, but one of the four or five most significant conditions governing success of innovation and change is the state of the particular art involved. During the mid-1950s there was considerable interest in using videotape for a variety of educational purposes; but the technological developments resulting in inexpensive equipment had not been achieved. Hence, a number of potentially interesting and effective experiments drifted into oblivion. Presently there is a great deal of interest in using computer-based or computer-assisted instruction, yet the technology for large numbers

of students to be accommodated at consoles at the same time, and the technology for the relatively easy production of software have not reached a level making some of these plans feasible. Even at a place such as the University of Illinois with its Plato system, which is one of the more sophisticated instructional computer facilities, large scale potentiality will not be realized for several more years until the technology has developed still further. Currently, many institutions are experimenting with sensitivity training and T-group activities, but with rather poor prognosis, because systematic and easily assimilated theory is simply unavailable. It seems likely that in 1971-72 plans for improvement of undergraduate teaching will be readily attempted in institutions which, in the mid-1960s would have rejected out of hand any substantial interest in that subject. The whole tenor of the times, as well as the technology for improvement of instruction has changed to make prognosis reasonably good.

There are undoubtedly other conditions which would operate with varying intensity to facilitate innovation and change. These, however, appear to be the most influential; and of these, several seem of paramount importance. Administrative leadership and support appear time and again in discussions of innovation as the most significant variable. But beyond this, institutional readiness, adequate financing, the general state of the art of the innovation, and the technical competence of the individual charged with operating the change, seem the most central. In the presence of strong administrative leadership, institutional readiness, and appropriate financing and technology, even such intractable matters as obstructionism on

the part of faculty oligarchs or discontinuities of individuals associated with the project can be overcome. Without those essential ingredients, no amount of such things as pay-off for students and faculty, or publicity, seem likely to result in effective and lasting change.

The processes by which institutions of higher education change and innovate may also be understood by examining some of the barriers to change. If these can be sufficiently specified in a given institutional context, and if the proposed innovation or change appears worth the effort, the barriers could be removed and/or mofified, allowing the change to take place. Hefferlin's elaborate study of institutional vitality lists several broad categories, the first of which characterize complex organizations generally, of which institutions of higher education are clear examples.

1. "Organizations are inherently passive in contrast to congeries of individuals who do not interact or to crowds that interact only transiently. Organizations consist of patterns of repetitive and continuing interaction, patterns of coordinated and ordered behavior."

Thus, once the academic calendar or the 50 minute class hour, or reserving afternoons for committee meetings, or dividing the curriculum into required elective and major courses come into being and are institutionalized, it is much easier to allow them to persist rather than to change any of them. For to change any one important element in the fabric of academic life means distortion and a modification of all other parts.

2. "Voluntary organizations attract member who agree with their activities. Organizations are self-selective. Their members recruit others who appear to be compatible with them and new recruits join the organization because they approve of its goal."

Faculty members become faculty members because they found as students that life on campus was compatible with their long-developed desires and psychological needs. They liked the life-style they saw among the professoreate and the structure of a college or university allowed them the freedom to pursue their own preoccupations. After joining the faculty, new members historically have been unwilling to seek to change conditions which they fundamentally liked. It may be, of course, that this point is changing. Martin Trow[1] points out that newer faculty members are much closer to radical students in their beliefs than to older faculty members, and that that radicalism might very well serve to bring about major changes in the practices of higher education. If this were to happen, it would be "something new under the sun," for the inertial power of the self-selected academic faculty is powerful, indeed.

1. CHANGING PATTERNS IN GRADUATE EDUCATION (Berkeley: The Center for Research and development in Education, October 1970)

3. Organizations tend toward institutionalization and ritualism. Organizational activities and procedures tend over time to assume a sacred quality by a process that sociologists call the "institutionalization of means," and the "formalization of routine." For example, eventually a foreign language requirement, which was originally functional in character, takes on a symbolic value of signifying all that is good with liberal education.

To attempt to abolish the foreign language requirement is to jeopardize the fundamental values of higher education. Or another example: lecturing is but one of many means for modifying student behavior but in higher education lecturing comes to take on the symbolic value of the essence of education and is done for its own sake without respect to potential changes for good or ill on the part of students. This is epitomized in some institutions in which the expression "to lecture" has become synonimous with the expression "to teach."

4. "Organizations that are livelihoods for people tend to come to exist only as livelihoods for these people. A volunteer organization disappears as soon as the volunteer effort collapses; but an organization with paid employees becomes a particularly vested interest, and any threat to procedures and rituals that provide a livelihood is likely to be resisted." Recently, for example, the Graduate Dean at the University of Columbia has recommended the abolishing of the Department of Linguistics. It had suffered declining enrollments, declining prestige but it had come to be viewed as a sinecure for the faculty members. Threatened, the faculty has sought to generate support from all other departments which, at some time in the forseeable future could be similarly threatened. Even though it can be established that in many small liberal arts colleges departments of Physics or Music are luxuries affecting few, if any, students, they are defended as livelihoods for professors, always, of course, with the rhetoric of the virtues and integrity of the liberal arts and sciences.

5. "The maintenance of institutional effectiveness or achievement is only one problem that organizations must face in order to survive. Other problems may take precedence over it. Problems of recruiting members, of coordination and integration, of authority and stability all must be attended to when they occur." This point has been especially demonstrated recently by academic senates created, for the most part, betwedn 1968 and 1971. Presumably, these governance structures were intended to facilitate educatonal reforms. For the most part, however, senates were so preoccupied in carving out roles for themselves and dealing with crisis situations requiring judicial decisions, that no time was available for academic or educational reform. So significant is this matter, for example, that Dwight R. Ladd feels that large institutions may have reached these limits

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1 Dwight R. Ladd, CHANGE IN EDUCATIONAL POLICY (New York: McGraw-Hill Book Book Company, 1970)

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of collegiality in governance, being unable to deal rationally with fundamental educational problems, and that some new governance structure will be essential.

In addition to those broad categories of barriers which inhere to complex organizations generally, there are other sorts of barriers more idiosyncratic to colleges and universities."

1. "Their purposes and support are basically conservative. Schools and colleges are essentially devices for the perpetuation of culture." Thus if history, English, foreign language, and even the sciences are cultural values of long tenure, any attempt to eliminate them would stimulate intense antagonism.

2. The educational system is vertically fragmented. Undergraduate colleges are trapped between the lower schools and the graduate schools. They are caught between the competencies of their applicants and the expectations of employers and graduate school admissions officers." Hence, either really or imaginatively, change can be resisted on the ground that important other layers exercise a controlling hand. A Chemistry department will not abolish the laboratory for freshman chemistry out of fear for the American Chemical Society, while a public junior college will not create new ad hoc sorts of courses because they "may not transfer."

3. Within higher education institutional reputation is not based on innovation. The accepted roads to academic prestige and advancement are not those of unconventionality. During the late 1960s a number of new institutions were created, and a number of others were assigned or achieved new missions. Opportunities abounded for new and innovative programs. Yet, for the most part, those institutions sought to emulate the established and prestigious institutions, even though there was mounting evidence that educationally the most prestigious universities were not particularly effective.

4. "The ideology of the academic profession treats professors as independent professionals. Professors tend to think of themselves as biologists or historians who associate themselves with an institution in order to practice their profession." Thus, the imagined real function of a professor is not to help young people develop but to practice whatever the craft of historian or biologist might be. This allows gradual change

in historiography or laboratory technique but little concern for changing the teaching of history or biology.

"Academics are skeptical about the idea of efficiency in academic life. Many professor harbor a mystique about teaching and education that denies the validity of measurement." Much of the rforming literature argues that higher education has not been particularly effective but that it should be especially in view of its enormous cost. The academic response First of all, how to you know it isn't effective? Then, by rejecting evidence presented, and finally by saying "You can't place quantitative value on the sacred processes of education which provide for the serendipity of occasionally setting a student afire intellectually."

5. "Academic institutions are deliberately structured to resist precipitant change. Besides their policies of academic freedom and tenure to protect against external vigilantes or internal dissension, most colleges and universities operate through a series of review and approval mechanisms. Departmental faculty meetings general faculty meetings, administrative boards, senates, assemblies, and governing boards -- "all of these are designed to slow down the process of change and to insure that no vested interest is seriously jeopardized. The departmental structure is here a prime example with each department jealously guarding its preserves and the principal of senatorial courtesy, disallowing any serious threat from such an alien place as central administration."

These several categories have been derived from J. B. Lon Hefferlin, DYNAMICS OF ACADEMIC REFORM (San Francisco: Jossey-Bass, Inc., 1969, pages 10 thru' 16).

These broad categories of barriers to innovation and change are ...ntified and elaborated by a number of specific barriers. In enumerat-...ese, it then should be possible to infer what modifications should ... could be made to facilitate change.

1. Institutions reflecting a high degree of collegial governance ...not likely also to exhibit rapid or radical educational change. An ...itutions which is so organized that every potentially interested ...y has a review function over proposed change, will so slow up the ...ss that virtually nothing happens. From 1965 to 1970 many institutions ...ucted rather elaborate institutional self-studies, partly as the result ...mands made by protesting students. These generally produced long lists ...ginative proposals for reform. For the most part, however, once the ...sals for reform were placed in the academic governance apparatus, the ...sals either were watered down or allowed to atrophy within the committee ...ture. This fact has led to a serious quest for governance reform, includ-...uch principles as decentralization into cluster colleges so that reforms ... have a better chance of success.

2. Institutional success and professorial self-satisfaction is a ...us obstacle. For example, an institution which has expanded its ...ate offerings attracted considerable financial support and recruited ...ionally recognized faculty, judges itself to be successful by prevailing ...dards, and its faculty quite naturally is resistant to suggested changes in ...educational practices. Recently, for example, a small group of faculty ...n from Vanderbilt University attempted to develop a series of

recommendations to improve the undergraduate experience of its students. The recommendations made were not particularly radical but even so were advanced with considerable hesitancy on the ground that the Vanderbilt faculty is, for the most part, satisfied with what it is doing, hence will want convincing evidence as to why new things should be attempted. Much of recent literature on academic reform point out the paradox that the most prestige institutions reform the least, while the less prestigous attempt reform but the attempts are not respected simply because of lack o institutional prestige, according to prevailing norms.

In spite of the comment about debilitating force of excessive collegiality, it is also true that failure to involve those who will be intimately affected is a substantial barrier to educational innovation and reform. Paul Woodring shows how this matter was illustrated in the State

Paul Woodring, INVESTMENT IN INNOVATION. (Boston: Little, Brown & Company, 1970)

of Arkansas during the 1950s. The Fund for the Advancement of Education wanted to bring about major reforms in teacher preparation. A small steering Committee, with considerable out-of-State representation, and representation from the University of Arkansas planned a rather elaborate system which would emphasize a fifth year and would also stress the liberal arts and sciences in the preparation of teachers. However, the planning did not involve the professors of Education in the many public and private institutions in the State, nor did it involve to any substantial degree those in charge of certification. As a result, those who felt themselves to have an interest

but were excluded from the planning, became a solid block of resistance which insured that once Ford money ended the entire experiment with teacher preparation also ended.

4. Clogged and confused channels of communication and administration is frequently found as a barrier to educational change. Until the quite recent past, many liberal arts colleges and teachers' colleges were presidentially oriented with the president taking an immediate interest in many of the educational details of his institution. Pathological illustration of this condition resulted in members of the faculty not really knowing where to go with an idea for change in order to receive a hearing with some hopes that the change could be accomplished. For example, in one eastern women's college channels of communication were so confused that faculty members wishing to offer new courses could take the matter directly to the president , the academic dean, dean of the college, or the director of development who at that institution had accumulated considerable personal power and influence. Not knowing the most expeditious channel, faculty members, for the most part, retreated into apathy and the institution reflected an intellectual and educational aridity. At that institution, before serious curricular reform could be attempted, channels of communication had to be established, spheres of influence and responsibility clearly delineated and faculty and administration in the institution retrained to follow the new structures. There was, of course, the danger that the new structures themselves would become rigid; but in institutions in which clogged and confused channels exist, that danger must be borne.

5. Polarization of faculties into political factions, regardless of the issue, is likely to be restrictive with respect o educational innovation and change. For example, to the outside observer at least, the faculties of Florida Atlantic University and the University of South Alabama have been so polarized with respect to confidence or lack of confidence in presidential leadership since their fonding days that no consistent educational thinking nor discussion has been possible. A curricular modification suggested by a member of the group antagonistic to the president is rejected by the other side as an example of disloyalty, while loyalists' ideas are rejected as simply enhancing presidential power at the expense of legitimate faculty rights./ While the evidence is far from in, one can speculate that actual implementation of educational reformduring 1969 and 1970 will prove to have been quite minimal partly because so many faculties were polarized with respect to the social issues wrenching not only the institution but the nation as well.

6. Dishonest or unwarranted claims for the values or successes of innovations will also discredit the whole matter of change and innovation. Nationally this is well represented by the history of Parsons College in Fairfield, Iowa. During the administration of Millard Roberts, Parsons College experimented with a number of promising devices, none of which were particularly new but which, in combination, suggested new directions for the conduct of collegiate institutions. Parsons employed a limited number of courses taught by differing categories of teachers (professors, proctors, and tutors) in large lecture classes and small tutorial sections,

in buildings which were constructed for functional utility rather than esthetic quality. The entire institution was governed by established principles of management and attention paid to adequate cost accounting. From such a system the president theorized that the institution could pay quite high faculty salaries in return for definite teaching commitments on the part of professors. However, the president made dishonest claims as to the financial condition of the institution. He implemented the teaching program in ways which alienated the faculty, and he persistently ignored his own injunctions regarding cost analysis and management procedures. As a result of the general national disfavor into which the Parsons experiement fell, the institution lost its accreditation, the president was discharged, and the whole complex of innovative ideas discredited, very likely for a generation. To a lesser degree, the same phenomen operates within institutions. A group of faculty becomes preoccupied with a new educational idea - interdisciplinary courses, T-group experience or comprehensive examinations - and argues that if adopted these will make the institution into a vibrant and exciting learning environment for students. When the hoped-for outcomes do not materialize, the whole concept of experimentation is rendered suspect, and the faculty suitably suspicious at other reforms. A variant is that much of educational experimentation has resulted in no significant differences between experimental and orthodox modes of teaching, scheduling, advising, or whatever. Faculty toleration for no significant differences is notably limited; and after a time contend if the outcomes of a laborious new procedure are so

indeterminate, why not follow the course of lesser resistance and do things in orthodox ways.

7. The failure to appoint necessary and competent administrattive leadership needed for a change, and the failure to provide adequate time and resources necessary for the project is a key barrier to educational reform. This is most clearly exemplified by the founding of Florida Atlantic University which was intended to be an upper division and first year graduate institution. The normally higher cost of upper division instruction was to be rectified through elaborate use of newer media of instruction (computers, television, tape recordings, programs of learning and the like) but such devices require either a carefully selected faculty whose members are interested in the media, or a faculty carefully retrained in the uses of technology. However, at Florida Atlantic University the academic dean, whose responsibility such selection or retraining would be, was not appointed until six weeks before the opening of the first year after a rather orthodox faculty had been employed through quite casual methods. The result is that Florida Atlantic University seems, seven years after opening, to possess an enormous supply of technological hardware, for the most part unused; but the phenomenon is seen in less dramatic situations. Many liberal arts colleges have bcome convinced that systematic evaluation is essential, yet have been unwilling or unable to appoint a technically competent head of evaluation services to organize and implement the program. The result typically is that the catalog records that all students may gain academic credit through taking

examinations without attending classes, but the system is never used.

8. A barrier frequently encountered in privately supported Church-related colleges is the conflict between needed change and reform and existing institutional ideology. For example, a major element of reform during the 1960s consisted of a general loosening of curricular and personal requirements and regulations of students. Residence hall regulations came to allow greater intermingling of the sexes and curricular requirements lessened to allow greater freedom of election. Yet, so strong were institutional church or even regional traditions that needed change was delayed or rendered impossible of attainment. To illustrate:Bluf College is a Mennonite institution in Ohio which would like to enter into exchange programs with a nearby state institution. The plan is economically desirable and administratively feasible. However, B insists upon a very rigorous set of standards for personal conduct on the part of students on its campus which are repugnant to students basically enrolled in the tax-supported institution. As a result, the exchange proposal is not likely to be effective. Of a similar order is the need for close cooperation or even merger between predominantly black and predominantly white public institutions located in the same city or region. Merger or close cooperation could effect great savings to the state and could theoretically provide a richer sort of education for students of both races. Yet, in 1971, the prevailing ideology of suspiciousness on the part of faculties and administrations in the predominantly black institutions (based, it should be pointed out, in reality) precludes even rudimentary sorts of cooperative effort.

9. In addition to these somewhat discrete barriers there are a series of factors which have been observed during recent years as limiting or rendering unsuccessful a number of different kinds of innovations. First among these are personal animosities among and between people who must be intimately involved in a change project. At one institution, for example, the fact that two psychologists each operated from different premises regarding creativity, and the fact that they really didn't like each other, meant that the overall design was attenuated and the research not as fruitful as it might have been. The fact that several reading experts at another institution disliked and distrusted each other meant that the project to provide remedial reading would fail. Of perhaps even greater significance and of even less predictability is the matter of discontinuities in personnel. Change and innovation gain power and significance to the extent that individuals can spend a long period steeping themselves in the undertaking. Yet with the rapid movement of people in higher education, this optimum condition too frequently does not obtain. For example, in a number of computer-based innovations, discontinuities among programmers has proven most hurtful. Then there is the matter of institutional preoccupation with other and frequently disturbing matters. One attempt to allow students to accelerate was probably interrupted because the entire institution became preoccupied with a mandate from the Board of Regents to reorganize the institution into a quarter system from a semester system. The fact that an eastern university having pretensions of Ivy League status seem more preoccupied with its image as a highly selective type institution than with innovation, especially with

innovation which had the aura of general education or integrated studies about it; and, lack of institutional sophistication involved not only research design but administrative requirements for a complex remedial reading program have proven too much for the research or bureaucratic sophistication of some relatively weak institutions. A series of pedagogical experimentations in a junior college district will probably be of limited significance simply because junior colleges as yet do not have the necessary critical mass of research or evaluation personnel to produce reliable data and persuasive reports. Of a different order is the lack of mechanism or lack of willingness to disseminate information about innovative activities. So long as the outcomes of a change for new development are discussed only by a limited number of people, one can predict confidently that not much overall institutional impact will be felt. There is another factor, quite difficult to interpret yet which seemingly is involved in failure of innovation and change. This is either institutional or individual uncertainty as to the true goals of an innovation. When, for example, if there is confusion between a research and a teaching goal, neither is likely to be achieved. As previously mentioned, a highly significant factor is the failure of an institution to commit itself to a continuation of an innovation funded extramurally. If it proves successful, the ready availability of outside funds during the 1960s has resulted in an enormous flurry of experimentation, some of which has proven quite successful. However, institutions did not establish a solid budgetary base for perpetuation of the change; hence when one's extramural funding disappeared, the new procedure disappeared also.

Lastly, and of enormous significance is the failure of so many institutions to provide for carefully contrived evaluatation or assessment programs at the time innovations were attempted. This is aparticularly difficult issue because if overly-rigorous techniques are used, faculty enthusiasm will evaporate. But if these techniques are not used, the case for a successful project simply cannot be made convincingly.

Against the context of conditions favorable to innovation and change and barriers to reform, the effectiveness of a number of specific devices can now be examined. The first, and probably the most prevalent attempt to bring about broad institutional modification is the use of some form of an institutional self study. It should be pointed out that institutional self studies designed primarily for achieving or maintaining accreditation by a regional special accrediting agency is not likely to produce change for it is designed as much as a lawyer's brief or a public relations effort as it is to find evidence of weakness or mal functioning. However, many institutions, especially during the last five or six years, have mounted major institutional inquiries, partly in response to student protests. Examples would be the Study of Education at Stanford or the report of the select committee at the University of California at Berkeley entitled "Education at Berkeley." These, for the most part have resulted in elaborate lists of recommendations with respect to the curriculum, instruction, organization of the institution and relative emphasis given to educational purposes. While there have been some successes recorded, for the most part institutional self studies have not resulted in major

reforms. The previously mentioned complications of the bureaucratic structure clearly interfere as does the phenomenon of making a study rather than making change. However, a few experiences suggest ways by which an institutional self study can be effective. Very likely the study should be conducted by ad hoc groups and not by existing administrative mechanisms. During the time of the self study, virtually all other committee activity should be curtailed, and a definite termination point for the self study indicated at the outset. Through the self study, thoughts of both faculty and administration should be considered, and for each recommendation made a strategy established by which the recommendation can be expeditiously put into effect. Some of the more intellectual institutional studies, such as the one conducted at Vanderbilt University in 1966-67, were culminated with a document prepared by the President, based on the study which indicated broad guidelines for institutional development and phase points at which time each suggested change should be accomplished. A presidential document then carefully but forcefully manipulated through the faculty decision-making apparatus can result in substantial difference.

Earlier in the 1960s institutional long-range plans produced by a small group of administrators seemed the more effective , and a time again may come when this will be true. But in the early 1970s the surges for participation on the part of faculty and students in planning and self-students are so strong that the previously effective administrator-centered planning exercise may not be the most strategic course to follow. The classic analysis of institutional self studies is contined in Dwight R. Ladd,

Dwight R. Ladd, CHANGE IN EDUCATIONAL POLICY. (New York: McGraw-Hill, 1970).

However, several institutional self studies could also be consulted as being rather exemplary. Vanderbilt University, Stanford University, and The University of Hawaii all have produced worthwhile documents as has also Oklahoma State University. The President's Master Plan of Southern Methodist University outlined a number of defensible recommendations; but it serves chiefly as an example of faulty strategy, because the plan was developed by the President, approved by the Board of Trustees before the faculty had a chance to react to it.

A number of institutions have recently created Centers for the Improvement of Instruction (e.g., Michigan State University, University of Michigan at Ann Arbor, University of California at Berkeley) designed specifically to facilitate experiment in change, especially in undergraduate education. These Centers have typically been assigned several functions: they are to encourage and aid faculty members in changing curricula or modes of instruction. They are designed to facilitate approval of ad hoc. sorts of courses without the necessity of putting the course approval into the normal faculty apparatus. They are expected to disseminate information about innovation and change, and to conduct experimentation themselves when a particularly crucial problem appears. The evidence thus far is rather spotty as to how these organizations have fared. They have been typically staffed with a director frequently coming from one of the

behavioral sciences, secretarial help, and one or more full- or part-time professionals. They have typically developed libraries descriptive of educational innovation and have in some institutions been provided specific budgets to be used in making small grants to stimulate innovation. Almost all have tried dissemination of newsletters, bulletins and the like, but their directors testify that there is little response upon which to base a judgment as to whether or not the dissemination function is working or not. Representatives from several of these Centers have testified that while some faculties make use of them in an advisory capacity, they find they spent most of their time working on projects of their own contriving, frequently being funded with extramural money. Small grant-making mechanisms have apparently been reasonably successful, with evidence mounting that a few hundred dollars assigned to a faculty member can produce quite significant changes in his own practice. Of course, these changes are generally not widely copied, but for the individual professor himself the changes may be quite significant.

An administrative office which evolved somewhat earlier than the Centers for improvement of instruction, having considerable potential for bringing about changes in institutions, is the office of institutional research and the related testing office or office of evaluation studies. The missions of these offices have been variously described. One President assigned the Office of Institutional Research "to maintain a continuing internal audit of the education program of the institution." Generally, offices of institutional research are charged with generating and reporting a variety of kinds of data upon which decisions could be based, encouraging

faculty members to conduct studies of their educational efforts, conducting large-scale studies of significance to the institution, calling to the attention of the administration and faculty relevant data and studies completed elsewhere, and advising faculty and administration with respect to needed information. Testing offices have typically administered various orientation week tests to freshmen and, when possible, completed end-of-year or end-of-college tests. They have administered various national testing programs, sometimes administered individual tests suggested by counselors and, in a few institutions, have mounted major achievement test programs indigeous to the institution, such as The Comprehensive Examination Program at the University of Chicago or at Michigan State University. Over the years, offices of institutional research and testing offices have produced an enormous amount of information; and a few of the better known offices of institutional research have produced studies attracting widespread attention off campus: The studies of factors associated with attraction and retention of Minnesota faculty members, done at the University of Minnesota, studies done with departmentalism at Michigan State University, or studies done concerning new academic calendars, done at Flotida State University, come to mind as examples. However, the evidence that these offices have been responsible or influental in bringing about institutional change is not readily available. It does appear that the test data accumulated by the testing office at Antioch College was in part responsible for the preseveration of the new freshman year program begun in 1966. It also appears likely that some of the alumni data accumulated by the office of evaluation servies at Michigan State

University much earlier helped maintain the program of general education, and the associated testing program. Still earlier, the office of institutional research at the Univerity of Illinois, in the 1930s, did produce a five-and-ten rule and produced the evidence needed to force it. According to this rule, upper division and graduate courses enrolling fewer than five students were abolished, as were lower divisioncourses attracting fewer than ten students; but for every such example there appear to be literally hundreds of efforts completed with the institution continuing as though the studies had not been done. One of the most recent resumes of the state of institutional reseach by an active practitioner reveals this point:

> "Let's turn from the institution's problems to some of the institutional researcher's problems. One of the chief complaints institutional research people have is that although their great studies noone uses them. It is hard to get the results of their studies into practice."

Clifford T. Stewart, INSTITUTIONAL GOALS AND INSTITUTIONAL RESEARCH, Paper presented at the 26th National Conference on Higher Education, March 16, 1971.

If it is true that these offices have not been particularly influential in effecting change, a number of resons can be advanced to explain this negative phenomenon. Too frequently, reports have been too voluminous, with statistics too involved to be comprehended and assimilated by those who must make or maintain decisions. In too many situations, the person in charge of the office has been technically unsophisticated, hence readily ridiculed by the better trained faculty member in the relevant discipline; and in too many situations the office of institutional research or of testing has been administratively lodged too far from the location of decisions.

Hence, data, no matter the quality, have not been quickly at the disposal of decision makers. Still, offices of evaluation services and institutional research have a potential for affecting change, particularly if they should ever be able to produce intelligible information with respect to cost and educational impact. It may very well be that the present interest in performance contracting and cost benefit analysis may force greater use of institutional research and the information it produces to help bring about change.

A widely used device to facilitate change and innovation is the outside team of consultants or consulting firm. Again, the evidence as to effectiveness is episodic and somewhat inconsistent. For example, St. Andrew's College in North Carolina employed a panel of consultants to create the first curriculum; and the institution operated on that curriculum for ten years at the end of which time a new panel was convened which assessed the curriculum and established guidelines for the next decade. The institution is currently implementing those recommendations. However, a panel consisting of some of the same individuals who served at St. Andrew's College when convened for a similar purpose at Southern Methodist University, produced a report which has been never viewed by the faculty once the inquiry was completed. Similarly, a panel of consultants recommended the merger of St. John's College and St. Benedict's College in Minnesota -- a recommendation which after five years has still not been put into effect. Two members of that panel were subsequently commissioned by the University of Notre Dame and St. Mary's College. They recommended merger and within four months the

Boards of Trustees signed agreements to merge. Individuals consulting with institutions have had similar experiences. For twenty-five years the Late W. W. Charters served a consultative capacity at Stephens College with the title "Director of Research." During those twenty-five years he was able to stimulate several thousand different educational inquiries and seems to have been as influential as any other factor in keeping that institution as an experimenting institution well able to keep abreast of changing educational and social times. However, at other institutions the results of even quite intensive individual consultation have left few traces, even in the same academic year in which visits were completed. There is virtually no published literature on the effectiveness of consultants as agents of change. However, a few observations based on considerable experience may be appropriate. The one-shot consultation seems for the most part to be relatively ineffective. The consultant generally addresses some constituency on the campus, discusses matters with various small groups and produces an impressionistic report which conceivably could influence the thinking of someone. Of more utility seems to be the arrangement by which a consultant first spends some time familiarizing himself with an institution and its problems, and gains the recognition and, hopefully, the respect of the various campus constituencies. Then, acting as a part of the institution but apart from the institution, he tries actually to accomplish change at the time of his visit rather than relying on a subsequent report to make his points. As with offices of institutional research, the production of information alone seems insufficient to bring about change. For innovation and change to result from the efforts

of a consultant, he must actively involve himself in what some have called "action research." That is, he becomes a part of the entire change process.

Philanthropic and Government grants represent a large attempt to bring about institutional change; and while considerable has been written concerning the subject, evidence as to effectiveness is far from conclusive. The 1910 Abraham Flexner Report on Medical Education did bring about a revolution in the preparation of edical doctors. The General Education Board, through its creation of a Teacher Retirement Fund did affect the financial security and the mobility of college professors. Beyond doubt, the Ford Foundation salary grants to private colleges in the 1950s did stimulate a general improvement of faculty remuneration and focused public attention on the financial plight of college teachers. There are, of course, other examples. The Ford Foundation program of matching grants to a limited number of institutions seems to have resulted in changing the character of such places as Stanford University or New York University. The FSSO Foundation grants to stimulate innovation seem, in at least a third of the cases, to have sparked change which persisted or seemed likely to persist. The Danforth Foundation through its Workshop on liberal arts education, and through its improvement of instruction grants seems also in a respectable number of cases to have produced some perceivable and persisting modifications of program; and certainly the Carnegie Foundation with its support of the Carnegie Study of Higher Education is producing an enormous amount of material which could be of considerable value in bringing about change in educational practice. But there have been some enormous failures as

well. The Kellogg Foundation has mounted a number of programs designed to improve educational administration; the Ford Foundation stressed changes in teacher preparation (including the M.A.T. degree and various forms of internship) and the Danforth Foundation, through a number of its programs has stressed improvement of college teaching. The net result of these is not particularly impressive, recognizing that this contribution of outside funding to innovation and change is a highly complex matter, and that no matter what one says it is likely to be an over-simplification. Still, one can posit some suggestions reflective of the potential for bringing about change. Foundations might place their emphasis on littlescience and relatively small projects rather than the large undertakings which might even tax the resources of the Federal Government. Currently, several Foundations are redirecting massive portions of their resources to urban development. It may be that this is wise; but the experience in viewing some of the smaller projects suggests that they, spread among more institutions, may in the long run promote the seminal ideas which can then be elaborated and exploited with government resources. Foundations ought to consider more seriously their responsibilities for dissemination of information and make this a central part of most grants.

Foundations supporting educational innovation are asked to pay for professional service but so frequently receive only the services of professionals in training. Foundations also might give greater attention as to whether a suggested innovation is consistent with the traditions and style of a given institution. If a university is so convinced that research

and graduate training is its principal mission, then sponsorship of innovation in undergraduate teaching is likely to be realitively ineffective. And, Foundations, even more than other institutions, should constantly be on guard against preoccupation with fads or movements so much in the ascendancy that progression is assured even though foundation support were not provided. An example of the former is probably manipulation with the Academic Council and with the generic concept of independent study. Now both of these have a legitimate history and have some potential but they do partake of a fad-like quality similar to that which characterized education for the gifted student, which gained popularity in the late 1950s.

A technique for bringing about major change and concerning which opinion is still largely divided is the use of pilot studies or pilot efforts in the hopes that if they succeed they will provide a leavening for a much larger educational mass. The concept obviously derived from scientific investigation in which a pilot study is conducted to determine whether or not a larger effort is feasible. As attempted in institutions, a small program in general education, a cluster college or the creation of a pilot program in interdisciplinary studies is mounted, hoping that if successful other elements in the institution will apply lessons learned. In a larger context, the State University of New York created Old Westbury College in the hopes that it could be the experimental laboratory for that large complex of institutions. At the University of Redlands, Johnson College was created as a sub-unit and designed to be experimental and didactic. At the Uni-

versity of Michigan and the University of California at Berkeley, experimental colleges were created first to serve as alternatives for students, but also to serve as laboratories for the testing of new educational ideas. In opposition to the use of pilot programs is the point of view that colleges and universities are such complex and conservative organisms that only major change can really affect the total environment. Thus, in the 1940s, Michigan State University produced a university requirement of general education, a completely new testing program and an elaborate counseling system at one stroke. In 1970, Colorado College, believing it better to make a major change which would then be modified, rather than trying to make small incremental changes, shifted its full program to a modular course structure. While there is no persuasive evidence supporting either of these two positions, reflection over the past several decades with respect to institutions which somehow have become visibly different, tends to support the massive over the smaller pilot sort of effort.

Voluntary accreditation in higher education is a distinctively American phenomenon and originally was intended to protect the public by insuring that institutions met minimal standards of competency. In spite of consistent criticisms, regional accreditation, at least, must be judged to have performed that role at least adequately. However, persumably the power to affect minimal standards of competence is also a force which could bring about still further change in institutions if it were adequately deployed.. With a few notable exceptions, however, the evidence does not indicate that such a power has actually been used. One of those exceptions was the

Northcentral Association study of Liberal Arts Education which, for more than thirty years has been helping small and relatively weak institutions make changes in their educational programs. A thoughtful analysis of the Northcentral Association proclaimed this study to have been one of its most valuable and enduring programs.

"Although it was sponsored bythe NCA, a distinguishing feature of the program as it developed over the years was its spontaneity. The participants themselves determined what would be undertaken each year. The role of the NCA has been to provide a panel of coordinators, counselors if they should be wanted, to arrange two annual four-week workshops at NCA universities (Iowa, Michigan, Michigan State, and Minnesota have been sites) and to help with weekend intercollegiate conferences during the year.

"By the early 1950s it had settled into a year-round self-study program of the participants. Study projects varied widely. In the first decade, not quite half were concerned with curricula or problems such as improvement of divisional organization, development of general education programs, or clarification and evaluation of institutional objectives. About a fourth of the project dealt with improving counseling services, orienting new students, coordinating extracurricular programs, inquiring into reasons for student failure, and improving admissions programs. One-sixth focused on instruction itself, the improvement of classroom procedures, the use of comprehensive examinations, grading, remedial courses, audiovisual aids,

reading lists and other pertinent items. A monthly News Bulletin kept participants up-to-date on developments and findings."

Louis G. Geiger. VOLUNTARY ACCREDITATION. (Menasha: The North Central Association of Colleges and Secondary Schools, 1970, p. 16).

A technique for effecting change which possesses an obvious rationale is travel and visiting other institutions on the part of faculty or administration charged with bringing about change. So obvious is the rationale that there has been little consistent theorizing as to how well visitation has contributed to change. The Junior College Leadership Training Program at the University of California, Los Angeles, has conducted tours of junior college facilities and its Director, Lemar Johnson believes this to be an important ingredient in bring about innovation in junior colleges. During the early 1960s, the educational facilities laboratory sponsored airborne tours of Junior College administrators, architects and Junior College Board Members, during which these individuals would visit intriguing new junior college facilities in the hopes that the trip would result in better and more imaginative junior college campuses. The testimony from people who made the tours praised the experience highly. More recently, programs for improvement of some of the weaker developing institutions have included travel as parts of the budget on the ground that by seeing how innovations actually work elsewhere, better and more refined efforts could be made on the campus of the developing institution. The danger of visitation is that it can perpetuate a kind of "monkey see, monkey do"

approach to innovation. Seeing a new curriculum or a new use of a computer at one institution may encourage indiscriminate adoption without recognizing that innovations to persist must be carefully grafted on to indigenous circumstances. Illustrative is the case of officials from the University of South Florida visiting Dartmouth College and becoming intrigued with the system of mandatory leaves of absence for students who were underperfoming. At Dartmouth, students would be asked to take a mandatory leave of absence and they generally returned with enhanced motivation. However, the students at South Florida came generally from a different intellectual tradition. To tell a student who is the first of his entire family ever to go to college, and whose basic motivation is not particularly high, to take a leave of absence would mean a complete drop-out. Thus a scheme indigenous to one institution which was quite successful, when implanted in a different milieu caused serious problems and had to be discarded. In spite of this danger, however, the testimony on how individuals have been made more receptive to innovation and change through travel and visitation is sufficiently impressive to suggest that this is one of the important devices which should be fostered.

Since 1957 there has been a nation-wide movement within public higher education for the states to create coordinating councils or committees or other forms of supra-institutional Boards of Control. These have typically been created to achieve several purposes. They were intended to facilitate state-wide accumulation of data and long-range planning. They were supposed to insure better deployment of a state's resources so as to insure equal

access to higher education for all the young people in the state. Hopefully, through such things as avoiding expensive duplication of programs, these coordinating committees were also supposed to effect educational economies. In a number of the states, coordinating councils were also intended to insure that different types of institutions (state universities, state colleges, junior colleges) performed distinctive missions and in at least a few states the coordinating council or the central office of a single system of institutions (for example, the four campuses of the University of Missouri) attempted to stimulate change and innovation on individual campuses. There can be no doubt but that the supra institutional agencies have altered the character of higher education. They have resulted in curtailment of authority granted the President of an individual campus. They have forced multiple reviews of new and changed programs; and they have accumulated large bodies of information about the state of higher education in at least a few of the states (California, Illinois, and New York). But available evidence suggests that they have been more retarding than encouraging of educational innovation and change on individual campuses. They have typically added one or more administrative layers through which innovations must pass before adoption, and seem to have imposed a kind of orthodoxy which would discourage an individual campus from varying too much from a presumed norm. For example, within a large state system should one institution operate on one kind of academic calendar while another maintaining a completely different organization follows a different pattern. Yet for purposes of compatibility of data and presumed better articulation in a system, there has been a tendency for coordinating councils to urge a single calendar throughout the state. Nor have these councils been influential

in encouraging differences according to institutional type. Indeed, they seem to have been almost powerless in preventing a kind of regression toward the mean which characterizes all collegiate institutions as they each become complex, multi-purposed institutions serving a variety of students. It may an overly harsh judgment. The Institute for Higher Education which is the institutional research arm of the University of Georgia system, has produced a large number of relatively short monographs dealing with innovative practices, and these have been distributed widely within the system. It may be that this sort of activity will in the long run pay off but as of 1971 there is simply no available evidence indicitive that changes are in fact happening.

Similar, with respect to some purposes with coordinating councils are consortia and other cooperative arrangements, chiefly among privately controlled institutions. Cooperation first began on a substantial scale in the early 1950s as private institutions within a state banded together for fund-raising and development activities. These did produce a substantial increase in yield, especially from corporation giving. The next step came in the late 1950s with the creation of such consortia as The Great Lakes College Association or The Associated Colleges of the Midwest. The movement has crescendoed and there are currently probably something on the order of 1,500 consortial arrangements of various sorts. While these do not appear to have effected economies in institutional operation, the anecdotal evidence suggests that consortia have produced quite a rich yield in changed educational practice. These changes range from increasing

library holdings in esoteric fields to the maintaining of Overseas campuses to the cross-listing of courses in the catalogs of nearby institutions so that students can exploit the curricular riches of several colleges rather than just one. To illustrate: here are some changes made at two institutions located in the same Georgia city.

1. Any student at each institution may take courses at the other quarter without additional fees.

2. Any student at either institution may attend any event at the other institution free; or, if a charge is made to the home student, the same charge to the neighboring student.

3. Any student at each institution may use the facilities of the other institution if such facilities are available to the home student.

4. A shuttle bus service is being inaugurated, beginning in September, 1971, between the two institutions. This service will be free to the students.

5. The two colleges have joint appointments and courtesy appointments. The joint appointments are literally faculty members who teach at each institution in certain required subjects. The courtesy appointments are those who teach at least once each year in the other institution.

6. There are several undergraduate programs which are joint programs and approved as such by the Board of Regents which governs both institutions. For instance, there is a joint Criminal Justice program and a joint program in Business Administration, with a major in Finance.

7. It is expected that there will be a Graduate Center in the city which will be jointly sponsored and operated by the two institutions.

> "On balance it appears that consortia and cooperative arrangements have been and can be influential in bringing about changes within an institution; but that these changes are accomplished at considerable cost. Whether the curricular instruction and enrichment is worth the cost of course is dependent on judgements each institution must make for itself."

In large part responsive to student criticism, a number of institutions have created new administrative offices directly responsible for watching over and helping improve undergraduate instruction. In some of the Junior Colleges an Associate Dean for Instruction is created with no administrative or line duties but with the responsibility to encourage innovation and change. At the Merimac Campus of the St. Louis Metropolitan Junior College District, for example, an individual who formerly had been a junior college President, serves this role and apparently has been able to maintain non-threatening relationships with other administrators and with the faculty, and has produced a substantial volume of changed patterns. Within some complex universities there has been the attempt to create Deans of Undergraduate Studies who, without the control of faculties, are supposed to encourage experimentation with teaching, the creation of new courses and the exploration of whole new modes of education. One somewhat atypical arrangement was found in the College of Arts and Sciences at the University of Rochester, whose Dean appointed an assistant to the Dean,

with an original charge of working with graduate students. The incumbent expanded her field of activity and within several years found herself being one of the chief stimulators of innovation, especially on the part of younger faculty members. A variant of this device is, of course, the Ombudsman, which is an adaptation of the Scandinavian civil office. He is supposed to be a neutral individual to whom faculty, students or administrator can go with grievances. The Ombudsman hears the grievance and investigates the validity or invalidity of it. Presumably if the Ombudsman is insightful and does detect inappropriate procedures, he should be an important source for change. Thus far, reports from campuses having Ombudsmen indicate that they have been able to deal with grievances. However, evidence is still lacking as to whether or not they are influential in bringing about educational change. The same observation holds for Deans of Undergraduate Studies and Associate Deans for Instruction. The offices conducted without line responsibility are still too new. However, the impression persists that if the right person (an individual quite unthreatened himself) is the incumbent, the device can produce important changes.

A minor device but one of considerable potency for bringing about instruction or curricular change is to modify requirements in such a way that something approximating a free market can force change. This is well illustrated historically by President Eliot's advocacy of the free election system which allowed students to select from the total curriculum. Eliot had many purposes in mind, but an important one was to use the free elective system to break the stranglehold which the Humanities maintained on the

curriculum and to allow science and technology a chance to compete. The free elective system may have succeeded too much in view of the possible hegemony of the sciences or science-imitative disciplines which, once established, resulted in a reimposition of some prescription into the curriculum. Currently, institutions across the country are experimenting with some variant of eliminating requirements, and these actions have generally brought about rearrangements of enrollment patterns and a consequent rethinking of course content. One needs only speculate about conversations within foreign language departments, if foreign language requirements were removed. One can almost argue that just as in law guarantee of procedural rights comes close to guaranteeing subsidy rights. So in education guaranteeing/procedures for free selection will come close to guaranteeing substance, which is relatively close to the needs and aspirations of students.

A much used technique for focusing faculty attention on educational matters and hopefully bringing about change is the use of fall faculty conferences and faculty seminars. These are the occasion for people to reflect about the purposes of their institutions, their own plans and, hopefully, an opportunity to bring fresh ideas which will be subsequently considered for possible adoption. A variant on this is the faculty retreat, or the retreat of selected individuals, to think about and discuss educational issues away from the day-to-day routines of campus life. There is considerable logic to support these schemes and some evidence that at least on occasion these period of reflection and discussion do produce

beneficial change. A series of faculty and administrative retreats at St. Louis University seems to have set the stage so that the institution could make the needed surgery of eliminating a School of Engineering and a School of Dentistry. Faculty and administrative retreats at the University of Notre Dame in the spring of 1971 seems to have crystallized thinking, thus allowing the subsequent merger with St. Mary's College. A series of retreats and faculty workshops seem to be involved in a radical change in the curriculum of the School of Social Work at the University of Missouri, and a similar series appears to have resulted in substantial curricular organization of the Library School of the University of Illinois. These examples suggest that a program focus is probably essential if the conclave sort of effort is to be successful. While faculty enthusiasm after a particularly stimulating speech and discussion at a fall conference can be quite high, unless there is a problematic theme accepted as valid by faculty members, the fall conference doesn't appear to be of particular value with respect to bringing about change. Obviously, it may have considerable value facilitating collegiality or fellowship or developing high esprit de corps as the faculty faces a new academic year. Such purposes are not to be minimized and it must be accepted that a high esprit de corps may generate important changes and innovations.

Reports from National Associations and Proceedings from National Conferences represent a particularly mixed picture with respect to producing institutional change. By now it seems obvious that the AAUP annual reporting on faculty salaries was instrumental in making institutions conscious

of the need to raise salaries. It is also apparent that the American Council on Education's two reports on Quality in Graduate Education have resulted in a great deal of introspection and change on the part of those institutions which aspire to but have not yet reached excellence in graduate education. The American Association for Higher Education produced a report on Academic Governance which gave general popularity to the concept of shared responsibility and was no doubt responsible for many institutions developing senatorial systems of representative governance. Similarly, the American Society for Engineering Education, through concentration on goals of Engineering, has resulted in the vistory of engineering science for undergraduate programs over the more applied approach to engineering training. Conference Proceedings represent a different matter, so frequently they simply reflect a conventional wisdom, hence could not be presumed to bring about substantially changed practice. However, a few Proceedings during the past several decades seem to have contained some materials which did affect institutional practice. The American Council on Education focused on Instruction one year in its annual conference, and the paper prepared and delivered by William Arrowsmith apparently has been widely quoted and may be involved in the current resurgence of interest in the improvement of undergraduate teaching. As one who must read a large number of Conference Proceedings this author is somewhat persuaded that the number should be reduced. However, as a device for solidifying Associational ties and for symbolizing Associational activities, Conference Reports may be an essential part of the ritual of higher education; but they generally can not be judged as a potent means of effecting change.

Quite a few, especially of the smaller privately supported institutions have attempted to bring about innovation and change through what might be called bibliography. This consists of maintaining faculty reading rooms, circulating books dealing with education, even to the point of preparing News Bulletin-type digests of promising new developments. There is something appealing to the academic mind about this reliance on books and the printed work; but impressionistic evidence suggests this is not a very fruitful kind of activity. A great deal of printed material crosses the desk of most academic people and adding to the burden of that volume doesn't seem to be an effective way of stimulating educational thinking, discussion and, ultimately, change. For example, the School of Engineering at Northeastern University has developed a series of interesting cases for use in a freshman engineering course. Copies of these cases were routinely distributed with a request for comment from all members of the Engineering faculty. The response was deafening in its silence. However, when individual faculty members were invited to see and hear an audio-tape presentation of the essence of the case studies, interest was generated and several faculty members became sufficiently intrigued to want to try case materials themselves. Probably the circulation of printed materials should be continued and repositories of relevant books and articles collected, on the ground that an occasional person might want to investigate possible changes; but this effort should be made without great expectations as to generally applicable results.

Beyond question, one of the most potent devices to bring about academic change, innovation and reform is to manipulate the faculty reward

and incentive structure. This should not be construed to mean only dollar remuneration because faculty members obtain rewards many different ways. Examples here are quite numerous. The Social Science faculty at

A university in Kansas was persuaded to eliminate fifty-some-odd semester hours of seemingly superfluous courses, in response to a promise to cut faculty members' teaching loads to twelve hours. At Harvard College, the potentiality of incentives was recognized by the Doty Committee on Restudying General Education. That committee recognized the values of interdisciplinary courses but also the fact that faculty members had many other commitments. As an incentive for a person to teach an interdisciplinary general education course, the committee suggested collapsing the Sabbatical leave time so that a person teaching such a course would be eligible for a full Sabbatical leave in half the time he normally would be eligible. At Oregon State University, a legislatively mandated series of $1,000. rewards for good undergraduate teaching resulted in considerable grumbling; but a major resurgence of interest on the part of faculty members in having students evaluate their courses. Perhaps the classic example of using the reward system to achieve educational goals was at Parsons College at which full professors were paid salaries of $20,000. or more in the mid-1960s to carry heavy lecturing schedules in a town not at all salubrious nor desirable. While a number of the lectures lacked the charisma of the nation's outstanding lectures, most were highly competent and much better organized than is the mine-run lecture heard on most of the nation's college and university campuses. Earlier in this dicussion the point was

made that for innovations to succeed there had to be a pay-off for faculty and for students. It seems almost axiomatic that if an innovation is truly desired, considerable attention should be given to the rewards which must be available to faculty members.

In the 1950s Beardsley Ruml and Donald Morrison wrote a small book called "Memo. To A College Trustee." In this they urged that since faculty members would not attend to educational policy and presidents could not because of the pressures of other demands on their time, Boards of Trustees should reassert their rightful prerogatives over educational policy and practice and become deeply involved in the ongoing conduct of institutions. Legally, of course, Ruml and Morrison were quite right. Boards of Trustees do have the legal power to bring about changes. However, for the most part, Boards of Trustees have refrained from interfering in what is presumed to be the proper problems of faculty judgment; and experience would suggest that this tacit policy is wise. In a few institutionsboards or individual members of Boards of Trustees have tried to inject themselves into accomplishing educational reform. At Transylvania College, for example, a small but aggressive group of board members decided to bring about the creation of some new programs and a restoration of a vital liberal arts program. The board members called in considerable outside consultation, conducted a number of workshops, and generated many new ideas for curricular and instructional reforms. However, the board does not have close and working ties with the faculty and the bureaucracy of the institution. Hence there was really no way newly generated ideas could move into the action apparatus

to bring about actual change. Eventually, the central administration of the College was able to disassociate board members day-to-day concerns with program without jeopardizing relationships with the board members and restore the innovative role where it properly must rest, that is, with the faculty and administration. Board members seemingly can do considerable in setting a climate within which innovation can take place; but the bringing about of specific changes seems best left to other individuals and agencies.

The outbreak of student dissent from 1964 to 1970 revealed that prevailing systems of academic governance were, for the most part, incapable to responding to emergency conditions and bringing about demanded changes in educational practice. At Harvard, Columbia, and Berkeley, for example, central administration which had been conducting the affairs of the institution discovered it could not respond and still retain the support of faculties. Faculties, on the other hand, had never developed mechanisms to respond and mechanisms to bring about relatively quick innovation. Since those upsets, various forms of govering structures are being experimented with, a common one of which is a representative faculty senate with a full complement of committees designed to bring about changes as they are needed. In 1971, experiments are too recent to make any valid judgment as to how well or poorly changes in governance have effected institutional ability to respond to new conditions. There is the persistent impression that academic senates have spent the first several years developing procedures and processes dealing with the judicial and

disciplinary problems of student protest, thus not having time to discuss and bring about educational reform. The few institutions which have tried to emphasis a participatory democracy sort of governance style in which students, faculty, administration, board members and others all had equal voices in educational matters, such as Old Westbury College, have not set particularly good examples. The sheer radicalism and rapidity of experimentation which the Old Westbury community wished to promulgate eventually brought the institution into conflict with political and educational forces within New York, and a change of administration and a change of institutional direction seemed mandated. The earlier cited Johnson College of the University of Redlands seemed to encounter the same difficulty. The community style of governance brought to the surface a number of suggested reforms which were anathema to other and more powerful elements among the constituencies of the University. Saying all of this, however, does not negate the relationship between style of governance and ease of educational change; but it is to suggest that in 1971 not enough is known about which governance structures do and do not work to postulate any given structure. The same general point of view can be taken regarding cost benefit analysis as a means of bringing about educational change. It is almost a truism among critics of higher education that budgeting and business accounting of higher education have been notoriously bad, short-term in focus and ineffective in facilitating sound educational decisions. Recently, considerable argument has been exerted in favor of something called cost

benefit analysis, which allows, for example, an institution for the first time to determine how much of its resources are going for various Statistics classes, how much for Public Relations activities in all departments and units, and once these figures are available then to force decisions on the basis of express quantitatively is what cost worth while. Theory if the techniques of this new mode of budget analysis is adopted, it should be a powerful tool for bringing about reform; but in the summer of 1971 there is no institution in the country which has yet perfected a cost benefit analysis system, hence no real experience to base an assessment. However, approximations of a complete system can still be made and seem in theory at least to be potentially effective in facilitating change. Faculties for the most part have been reluctant to engage in this kind of thing, and such analyses would have to be made over the strong objections of faculty members having vested interests. But if an institution were forced to ponder a Physics Department which produces two Bachelor's degrees each year, with a full-time faculty of seven members, which is a substantial portion of an instructional budget, it might have a basis for decision. Granted that no institution can offer all programs, should the institution offer Physics or an expansion in its admissions program? Or a new office of Institutional Research? Or a greatly expanded program in Black Studies? It is in making just these sorts of comparisons that the cost benefit analysis mode of thinking should prove of value.

An enigma is the question asto how influential or effective has been the use of students in bringing about significant educational change. It is argued that protesting students focused attention on inquities in

undergraduate education. Hence, if lasting reforms come about, it will have been due to students' initiative. It is also argued that student pressure has brought about such things as the use of student evaluation forms for assessment of teaching, the voicing of student concerns in decisions about promotion and tenure, and the creation of ad hoc more more contemporary sorts of courses; and in a few institutions these claims can be validated. In a very real sense, some changes in curriculum at San Francisco State College resulted from students creating experimental type courses. At The University of Rochester, a faculty-conducted evaluation of teaching came to be palatable because the option was for an expanded student-prepared "scratch sheet." But the effectiveness of student serving on faculty committees dealing with such matters as the curriculum, has yet to be tested. A number of professors have testified that students' attendance at committee meetings has deteriorated over the past eighteen to twenty-four months, and that students as a sustained creative force for change is not likely to be a reality. It seems certain that the pattern of including students in committees and faculty senates is sufficiently widespread now that higher education could only with difficulty go back to an earlier form excluding students; but how much actual creative work can be expected from them is moot at the present. A last technique of change are the various Centers for Research and Development in Higher Education whether they be federally or privately financed. These Centers have been charged with finding research answers to the problems of practice which plague higher education and to disseminate information about the

results so that institutions can indeed change. The effectiveness of the outpouring of research from these centers has never been studied except by those having a vested interest in the perpetuation of the undertaking; thus any comments about their validity must be impressionistic indeed. However, the lack of awareness on the part of average faculties in most institutions visited of findings from research centers suggests that at this point at least main findings have not found themselves into the main stream of educational practice. The point can be illustrated through research concerning educational television. This has been probably the most widely studied and analyzed of most recently suggested innovations. Data are voluminous, establishing that televised education produces the same or better results than more orthodox modes. Yet television on most college campuses is still either absent or a peripheral activity attracting the attention of only a limited number of faculty members. Faculty members apparently are almost impervious to research data even though it be of the most respectable sort. Similarly, there are at least four decades of research on acceleration as a technique of education. The results have consistently shown that students can accelerate with no apparent harm to themselves, their subsequent development, and with even a strong suspicion that elimination of a year between high school and college could be a definite boon. In the face of this impressive evidence, faculty members still resist even the granting of credit for advanced placement examinations, on the ground that only students educated in formal classrooms should receive the accolade of academic credit.

Having considered the conditions for change and potential barriers, and having commented on some of the techniques or strategies employed to bring about change, the phenomenon may now be examined by considering categories of change open to colleges and universities, and to indicate broad techniques or strategies which have or have not worked. Within each category the typology of change employed is one prepared by the Public Policy Research organization, University of California, Irvine, under the heading of "More Scholars per Dollar," February 1, 1971.

Most changes in the practice of higher education in the United States can be subsumed under six broad headings. The first of these, and by far the most difficult to accomplish, is to change the essential nature of tasks to be performed. As indicated earlier, complex organizations, once in being and moving in one direction, tend to stay in being and to persist in that direction unless forced by external factors to modify. Thus, revising fundamental purposes is extraordinarily difficult, yet has been accomplished despite the aphorism popular among students of higher education that it is possible for an institution which has been in existence over a hundred years to change its essential role and scope. A cluster of institutions have within the past decade changed radically their missions, for the most part as the result of external pressure. The University of Kansas City was a privately supported institution in serious financial difficulties yet located in an urban area having high enrollment potential if students could but afford to attend. A decision was reached by the Board of Trustees and the Universty of Missouri for the University of Kansas City to become a branch of the University of Missouri and under the control of

the Board of Curators. Partly to satisfy educational needs of the State and partly to satisfy pride of the people of Kansas City, the new institution was assigned a mission of becoming a comprehensive university emphasizing graduate professional work and stressing research. A first Chancellor was appointed who had had considerable experience as a Vice-President for Graduate Study and Research in a public institution, and he was given a presumed mandate to expand the institution rapidly. Here, however, difficulties became apparent. While the Governor of the State and the coordinating Council for Higher Education had stressed the mission of comprehensiveness, the administration and Board of Curators of the University of Missouri stressed a system organization with different functions assigned to each of the four branches. While the resistance persisted for several years, the force of public opinion in Kansas City, the aggressiveness of newly appointed faculty, and a politically more sensitive Chancellor than the first one had been, had led the institution into its new role. Substantially, the same phenomenon operated for the Chicago Circle Campus of The University of Illinois. Originally, the University of Illinois had maintained a lower division branch at Navy Pier in Chicago. When enrollments outgrew capacity, a new campus was created and the move had scarcely been made when the Board of Higher Education and the University of Illinois announced that the new campus was to become a comprehensive university, excluding, however, Medicine and Dentistry as the University of Illinois already maintained extensive health facilities in Chicago. A few private institutions have succeeded or are in process of bringing about fundemental change. Seattle Pacific College is affiliated with the Free Methodist Church and sought to maintain

an urban area during the 1970s. When the Board of Trustees and the faculty each were unable to generate a new vision, the President organized an effort which involved asking three different consultants to examine the institution and to propose a planning model. These three conceptions then became the basis for sustained internal discussion, and the institution began to modify its posture by doing such things as proclaiming publicly that it was concerned with the good average student and changing substantially its admissions policies so as to attract students who were not necessarily a part of the evangelical tradition. Stanford University, as was earlier mentioned, with strong Board of Trustee support and detailed planning on the part of a small group of central administrators, shifted within a relatively few years the orientation of the University from a regional preoccupation to a national one. Both the University of Denver and Boston University began to change missions when the presidents and key advisers realized that increases in tuition had priced each institution out of its traditional clientele of young people living in the city or its close environs. Each institution then began to shift from being preoccupied with local and regional concerns toward becoming moderate-sized comprehensive universities having national interests. All of these examples emphasize the essential change elements of external conditions and central administrative leadership. It may be that some institutions have made fundamental changes as a result of faculty or student action; but if this is true, available literature does not reveal it. The one possible exception are the cases in which institutions have modified research policy or divested themselves of specific research

installation as a result of political activity on the part of students. A closer examination of those changes, however, suggest that they were well in progress before the onset of student activism.

A similar broad category of change consists of modifying the scope or mix of effort in which an institution engages itself within the public sector. There have been serious efforts to prescribe changes in mix of students, for example, to conform to an overall Master Plan; but the University of California was mandated to decrease the proportion of lower division students by diverting them into State Colleges or Junior Colleges. With but few exceptions these mandated changes in mix have not been accomplished for, as noted earlier, institutions generally tend to regress toward a mean or to maintain themselves at a mean which includes lower division and upper division students. More visible and dramatic have been the changes in mix of several private institutions when as a result of applicant pressure, single-sexed institutions became coeducational. Princeton University is a good case in point. Its president was long convinced that Princeton should remain a male institution. However, when the Director of Admissions was able to demonstrate conclusively that Princeton was losing many appropriate students because of its single-sexed posture, the president changed his mind and was able to persuade the Board of Trustees, relevant alumni groups and the faculty that a change was essential. During the 1960s a number of institutions changed or attempted to change the mix of effort expended on teaching research and service, generally seeking to place greater emphasis on research and somewhat lesser attention to teaching.

The availability of extramural funds, the recruitment of a critical mass of research-oriented faculty members, and at least the presence of some tradition for research excellence, allowed some universities to effect this change in mix. However, a substantial number of former teachers colleges having changed into state colleges and then changed into state universities, while aspiring to such a shift, were unable to do so principally because their tenured faculty members were neither interested nor competent in conducting research, and the availability of extramural funds disappeared before substantial new cadres of faculty members could be recruited.

The third broad category of change includes any change in the teaching or learning techniques of higher education whether these be developing interdisciplinary courses, modifying the lecture system or increasing the use of computers or television. Since this category is so descriptive of the subject of this entire essay, no overly-simplified generalizations will be presented as to techniques which do and do not work in bringing about change.

The fourth broad category consists of any change in the aggregate organizational system of higher education, whether this be a revision of a local system of governance or the creation of a statewide system of higher education. Generally major changes in campus governance have come only when the various constituencies became aware that existing forms were proving inadequate in the face of stress. When junior college faculty members became persuaded that their financial interests were not being safeguarded by prevailing methods of employment, unions have been developed.

. When administrator-centered administration proved inadequate to meet student protest, new forms of faculty involvement in governance were created. Changes in statewide systems seemed to have resulted generally from a common sequence of events. Political leaders became aware of escalating costs of higher education and increasing student enrollment pressures. One or more studies of higher education in the State were completed and finally recommendations for some statewide system accepted and voted into law. Thereafter, the effectiveness of the new structure rested in large measure on the diplomacy of the individual selected to conduct the new enterprise, and the tractability or intractability of heads of existing institutions within a state.

A fifth major type of change is even more difficult to analyze. This would include changes in the environment or ecology of higher education, and would include evolution of competing learning institutions and changes in the relationships among institutions in the same region. For example, in Greensboro, North Carolina, there are five institutions of higher education, three private and two public. It is apparent to the leadership of all five institutions that major modifications in their relationships must be made but as yet no workable techniques have been created.

A last major sort of change are modifications in the methods of financing higher education. By 1971 it has become apparent that constantly increasing tuition in the private sector and constantly increasing state appropriations in the public center are no longer tolerable. Thus the search is on to find new ways of deploying financial resources to accomplish the

educational needs of the nation. However, there still is no historical evidence as to what techniques are appropriate to bring about significant shifts.

Subsumable under these broad rubrics of types of change are a number of specific changes, each requiring somewhat discrete techniques and strategies to accomplish. Since virtually all institutions in the country are either now or have been or will be struggling to bring about such changes, the analysis of change technique must be highly selective and somewhat impressionistic.

1. "Elimination of Curricular Material. This category refers to eliminating duplicated material, historical accretions of little current significance and various cultural requirements that seem to have lost support, and to reduce the number of years required for certain kinds of professional training." It has been remarked that changing the curriculum is not unlike the task of moving a graveyard; yet some examples suggest possible approaches to the task. Several Schools of Engineering have eliminated or collapsed basic science courses when declining enrollment finally made painfully apparent that students were dissatisfied with the engineering curriculum. Graduation requirements have been relaxed with the attendant phasing out of some courses maintained only through requirement, when attrition studies indicated that the more creative and talented students were dropping out in disproportionately high numbers because of dissatisfaction with the rigidity of the curriculum. Some institutions,

through offices of institutional research or even through the Business Office, have publicized class enrollments and underscored the notoward high cost of classes which persistently attracted only a few students. In times of financial stringency, faculties have become convinced that some luxuries must go. A few institutions have assigned considerable responsibility to curriculum committees and have charged them with a department by department or division by division review of all courses offered. By insisting that academic units justify each course offered, some reductions have been brought about. During the decade following World War II, probably no part of collegiate education attracted more criticism from theorists about higher education than the proliferating curriculum and the necessity for restriction of courses. The earlier cited Rumal and Morrison Memo. to a College Trustee argued theoretically that faculty salaries could be increased if the number and size of courses were carefully limited, and Earl G. McGrath reemphasized the point in "Memo. to a College Faculty Member," by showing that number of courses was unrelated to departmental excellence or reputation, and that substantial institutional savings could be effected through attenuation of the curriculum. For the most part, these pleadings have not proven particularly effective because colleges were, during the period, an expansionist time, and faculty members were unwilling to exert real discipline over themselves or their colleagues. As institutions generally enter upon less affluent and less expansionist times, faculty reluctance to restrict may change. If it does, it will be because institutional leadership is able to demonstrate that institutional viability rests on curtailment of program, and is able to convince at least the faculty oligarchs that curtailment is

essential. It is unfortunate that such a process will eliminate first those programs or courses not well represented by political strength, or not particularly attractive to limited sources of outside funding. But if procedures are developed through dealing with relatively impotent parts of the curriculum, those procedures may then be used for more through-going reduction in requirements, courses, or time.

2. "Adding New Curricula. New curricula have been proposed to meet current urgent social need (increased relevance). They would relate to personal development, awareness, sensitivity, life style, personal value systems, communal living, community affairs, and problem-oriented courses dealing with critical social issues." As a general rule, institutions have not experienced difficulty in adding courses to a curriculum, if they were congruent with departmental or disciplinary interests. However, even these were somewhat difficult to accomplish in large complex institutions maintaining an interlocking system of review mechanisms, such as the Academic Senate of the University of California. However, the addition of the more contemporary sorts of courses has posed a different set of problems. Several mechanisms have been attempted, such as the creation of a special committee which can approve for a limited time such courses organized jointly by students and faculty, and designed to deal with contemporary problems. Some institutions have employed a course number allowing for independent study to be the device for offering ad hoc courses likely to be of intense but limited in time student interest. Some institutions have created interdisciplinary courses by subsidizing faculty time to

plan such a course and then offering it in competition with other more orthodox course offerings. Southern Methodist University attempted one device of creating a university college with its own dean and budget, with the dean being empowered to appoint professors from within the total university, and pay them to develop and offer new sorts of courses. Several hundred institutions have attempted to use such things as Lewis B. Mayhew, CONTEMPORARY COLLEGE STUDENTS AND THE CURRICULUM as a basis for general faculty discussion of the curriculum in the hopes that out of those discussions would come new curricular formulations. There is no real way of determining how much change such broad discussion has brought about, and only a nationwide canvass could uncover even approximations of fact. As a general rule, several elements seem to be needed. First, a clear and persuasive indication of widespread student satisfaction. Secondly, an indidivual or individuals must be provided enough time to plan adequately. Thirdly, there must be a streamlined mechanism by which the academic legitimacy of a new course can be establish. And, fourthly, offering the new course must compensate a definite and reimbursable plrtion of the faculty members' load. A few institutions liave attempted modest extra compensation; butthis does not seem adequate to support experimentation with new courses over a prolonged period. Quite possibly, concern with new types of courses may eventually force institutions into specific codification of the various components of faculty load. For example, in the previously cited new freshman prograns at Antioch, one-third of the faculty members' time was freed from formal teaching responsibilities, but with the understanding

that that time would be employed in offering new types of courses whether they be tutorial, short ad hoc courses or whatever. As a sub-point under this major heading are the various efforts to establish programs of Black Studies. While there has been some experimentation with separate administrative units for Black Studies, pervailing opinion seems to be moving in the direction of offering Black Studies under the auspices of existing academic administrative units, e.g., departments or divisions.

3. "Elimination of Certification and Grading. These may not be educational activities and the burden of evaluation of students might be shifted to those agencies (Business, Government, Graduate Schools) that desire the evaluation." Despite the fact that there is impressive evidence that examinations and grading are the most powerful motivators of student behavior, there is also considerable argument that the side effects from grading and certification are so serious that the system should be re or even abolished. The argument runs that if students are not threatened with the potentiality of failure, they may be more inclined to explore interesting areas but ones in which their performance may not be of the highest level. There is also the argument that in the absence of threats of grades, teachers and students can function as a team, since the teacher has been relieved of the role of judge. Recent changes in grading practices seem to have come about as a result of faculty-committee deliberations conducted under the pressure of student demands. Apparently, very little formal systematic study of the reliability of grading or grading patterns has preceded adoption of newer systems of grading, whether they be Pass-Fail, High Honors, Honors, Pass, Fail, or A B C with no failing grade. However, it seems also likely that as

part of a generalized backlash, state systems offices and state coordinating councils may force accumulation of grading information, in part because of the suspicion that newer techniques are allowing students to gain academic credit without demonstrating requisite competence. Already in the state college system in California, computation of grading patterns have indicated a rise in the top two grades and with some attendant criticism of the professoreate. Earlier attempts to modify the grading system seem to have been originated by central administration and reinforced with more data about grading practices. Thus the comprehensive examination system at the University of Chicago, Michigan State University, The University of Florida, and, most recently, the University of South Florida, was brought about because of administrative desire that grading be more uniform and that external examinations be used as a quality control device, especially in large staff courses. Changes in certification or credentialing would seem to be outside the pale of institutional competency. Thus it seems likely if changes are to be made in requirements for the credentialling of teachers, these will be brought about by state offices of education with little effort being expended by institutions themselves. Similarly with other licensing agencies; hence techniques for bringing about these transcend the limit of this essay.

4. "Reorganization of Students and Faculty." Of all the currently attempted innovations, reorganizing and regrouping students and faculty seem to be of potentially the greatest significance in improving education, yet are among the most difficult problems to solve. The sheer existence of

a physical plant designed for orthodox division of students and faculty into classes mitigates against any substantial reorganization, particularly of the largest institutions. However, a few of the better known reorganizations can be examined to determine how the feat was accomplished. The division of the University of California at Santa Cruz into cluster colleges seems to have derived originally from conversations between the then-President of the University, Clark Kerr and his very close friend, Dean McHenry, with whom he shared a zeal for improvement of undergraduate education. Since McHenry was Dean for Academic Planning, he was able to impose his ideas on a blueprint for the Santa Cruz Campus which, as its first Chancellor, he was subsequently able to implement. The cluster colleges at the University of the Pacific were the ideas of the late President Robert Burns who believed that cluster colleges represented a major panacea for the educational problems of the country. Burns was able to persuade his Board of Trustees and prospective donors to create and support the somewhat expensive smaller units. Similarly, at Michigan State University, it was President Hanna who finally became convinced that some subdivision of that rapidly growing institution was necessary, and that new sorts of institutions should be created on the periphery. The team teaching which has long characterized the College of Basic Studies at Boston University seems to have been the idea of its first Dean, Judson Butler, who was able to recruit and maintain a faculty convinced of the values of a prescribed curriculum taught by a team. Team teaching at Illinois State Colleges seems to have derived first of all

from a generalized interest on the part of its President in innovation; and from the results of several carefully controlled studies comparing team-taught students with those flowing through the curriculum in a more orthodox yet random way. Only at Stephens College does a form of new grouping of students appear to have come from the faculty. A faculty member developed the idea, then a faculty administration committee elaborated the idea , and the accident of a new building then being constructed was exploited to create a physical space. Thereafter, a designated leader and small group of faculty who would actually conduct the house plan experiment, worked out the details, made arrangements for systematic evaluation of the first year, and finally assessed and publicized the program.

5. "Increasing Hardware and Self-instruction." Efficiency can be increased by teaching machines, computers, mechanized information systems, television, films, and the like. Persuading large numbers of faculty members to exploit the newer technology seems to rest on one or a combination of several techniques. The campus of the Oakland Community College was designed and created by a President who was persuaded that a systems approach to curriculum construction and widespread use of learning carrels equipped with audio and visual devices was the form the college of the future would take. He was able to persuade his Board of Trustees of the wisdom of his theories, and was able to recruit a faculty which would make a serious effort to teach in a new and different mode. At the University of Illinois, a large computer-based instructional system called PLATO seems to have come into existence through the enthusiastic genius of its designer, with the support of a

powerful Dean who was able to marshal enough financial resources to insure technically sound development of the hardware. The idea has spread at the University of Illinois campus to the extent that even courses in beginning Latin are taught based on the computer - again largely through the enthusiastic proselyting of the originator of the system. As previously mentioned, the Learning Resources Center at Stephens College seems to have become an influential device through allowing faculty members enough time to become familiar with the equipment so as to use it in educationally effective ways. The faculty there also seems to have been somewhat more receptive to the newer technology because of a long tradition at that institution of experimentation and, more precisely, of using motion pictures, slides and recordings before the days of audio and videotape equipment. Use has been further facilitated by the existence of a physical plant specifically designed to encourage the use of newer methods, and from a conviction on the part of the President and his chief associates that in some way or other the newer media may eventually produce means of educational economy. The widespread experimentation with instructional television at the University of Houston, pointed up another strategic fact. There are apparently identifiable faculty members whose very nature makes them resistant to change. Asking those faculty members to experiment with the new technique is almost certain to insure failure of the experimentation. However, there are other faculty members quite open to innovation and these must be relied upon if a new device is going to be institutionalized.

6. "Fragmented Courses. This proposal contemplates that most courses would be very short (two to four weeks) and many would be mechanized. Computers can handle registration and scheduling problems that would arise. The object is to give a student wide opportunity to chart a personal path for his chosen educational objectives (which path may differ considerably from the usual sequences open to him for obtaining a B.A.) and to enable him to omit those parts of present prerequisites that are not essential , so that he can reach the objectives in minimal elapsed time if he wishes to do so." This is currently a much discussed possibility but with relatively few actual examples of a new and complete reorganization of time. An early variant of the idea was an asymmetrical class schedule developed at the University of South Florida in 1960 with the purposes of retaining students and faculty on campus for approximately forty hours each week, and to equalize the utilization of physical plant. After two years, the operation of the plant originated by the administrator and elaborated before first faculty members arrived was discontinued because of student dissatisfaction with a computer actually placing students into specific courses. Another variant was the development of an interim term frequently attempted in response to faculty members dissatisfaction with the "lame duck" time immediately after Christmas which characterized the two-thirds of the nation's schools operating on the semester system, and student demand for some off campus or ad hoc sorts of experiences. But the most full-blown variant is the new calendar at Colorado College which was put into existence after exhaustive faculty discussion of

a proposal advanced by one individual who was able to persuade his colleagues that while Colorado College was not in any particular trouble, educational needs of students did require a new format. Throughout the faculty and administration there seems to have been belief that it would be better to make a major institutionwide change and then modify that gradually in the succeeding years rather than attempt the bit-by-bit incremental change. After a year of operation, faculty, students and administration are taking careful stock of how the plan operated, and seem to be making quite responsible decisions concerning modification.

"The Promotion of Consortia. Economize by persuading neighboring institutions not to offer all curricula with small demand but to split them up among each other. Include joint use of libraries, computers, expensive laboratories and so forth." The movement of private institutions toward consortia as well as the movement of public-supported institutions into systems seems to have originated out of economic considerations. Private institutions, faced with the competiveness of enriched offerings of the public sector felt combination, coordination or occasionally even merger was imperative. The ideas seem to have been most widely discussed by Presidents and their immediate associates, who actually took the steps to create and partially support new organizations. Faculty members were only gradually then involved in the manifold committees and cooperative projects which fleshed out the agendas for consortia. An important element in determining whether a consortium could really become effective was the choice of the President or Director who had to work with the Board of Trustees consisting

of Presidents of member institutions. Also important, however, was the availabi;ity of extramural funding to allow the new consortium to have a visible program which did not place too much of a drain on member institutions. Virtually all consortia are presently facing a financially bleak future and seemingly must find ways of being economically valuable to member institutions or to going out of existence.

8. "Integrate Education and Work Experience. Such integration is intended to better connect a person's education to his career and to encourage a pattern for continuing education which may reduce obsolescence." The most visible manifestation of this sort of change is the Cooperative Work-Study Program, best exemplified by Northeastern University in Boston and Antioch College in Yellow Springs, Ohio. Both institution reveal the essential dynamics for bringing the idea into fruition. First there was presidential conviction that cooperative work-study experience was educationally sound. Secondly, the president had to recruit or persuade faculty members who would embrace the central idea of cooperative work-study. Then, at this point what seems crucial a definite office with its own staff and budget which had to be created to make the program effective. Those institutions have tried to mount cooperative work-study without the necessary administrative overhead have, for the most part, not proven successful. The next essential is to persuade potential employers of the values to be derived from accepting cooperative work-study students, both from the standpoint of work actually completed and from the standpoint of eventually recruiting well prepared college graduates. Consistent with this last point seems to

be the need for people representing the program to be continuously in the field lining up new positions for students and interpreting the values of cooperative work-study to the many publics of the institution. As the program begins to validate itself in ways the general faculty can understand, the entire system can be institutionalized. The officials at Northeastern University have become convinced that there is a body of technical information which people should possess if they are going to successfully mount a program of co-operative work-study. The institution now conducts week-long workshops to convey the experience and knowledge accumulated over the years at Northeastern. It is still too early to determine how valuable that codification of knowledge is likely to be; but the workshop idea seems plausible and is consistent with other workshops which have been successfully mounted to facilitate the spread of innovations.

9. "Increasing Student Participation in Administration. This is intended to increase the orientation of college education toward the future and to improve student motivation. Quite obviously, this sort of change is of recent origin, except in a few institutions such as Goddard or Antioch where the idea of community governance has long obtained. The pressures came from students seeking to reform or restructure universities; and the patterns by which greater student participation was accomplished are so varied as to support no generalization. At Franklin Marshall College, the impetus seems to have come from the President who literally forced faculty and students to create a structure and then to make it work.

The President, for example, deliberately remained off campus during several critical events in the hopes that the new structures would learn quickly to assume responsibility. At other institutions, faculty committees gradually extended committee memberships to students, first in the less threatening to the faculty activities, such as student discipline, and only gradually to the potentially threatening tasks of evaluation of faculty members' performance and the appointment of new faculty members. In a relatively few institutions, Boards of Trustees set the model by opening membership either to students or to quite young alumni with faculty departments, senates and committees then following suit. As has been repeatedly stressed in this essay, the role of central administration in producing innovation and change in American higher education has been of primary significance. However, with respect to including students in active participation, this generalization does not seem to be warranted. Rather, students have been accepted into partnership at different institutions as a result of differing patterns of political power. Once the abstract fact of participation has been accomplished, of course another problem appears which is to insure that participation is effective and satisfying to students. Experiences for the most part are so recent that little judgment can be made as to what does and does not work. However, one can speculate that effectiveness of student participation will be determined in large measure by the reality or unreality of problems faced. If students feel that they are actually dealing with real life problems and that their opinions are being responsibly received, one can be reasonably sanguine about persistence. But if committees on which students serve are of scant significance so will be their contributions.

10."Increase teaching awards . Improve the teaching image relative to the research image and hence stimulate greater attention to the quality of teaching." This, of course, is what some institutional presidents are attempting to do. Several lessons may be instructive. At the University of Rochester and the University of Toronto, department heads are required to present evidence and comment on teaching effectiveness before papers concerning a personnel decision will be considered. In the late 1930s, E. R. Guthrie at the University of Washington and Herman Remmers at Purdue were able to exploit their own power with faculties to obtain almost a hundred per cent utilization of student opinionnaires regarding teaching. At Palson State College outside of Baltimore, the President has stressed time and again to his faculty, to outside constituencies that teaching is the most important function at that institution. Of course, the public Junior Colleges have stressed generally in contracts, publicity and statements to faculty that teaching is the prime business of Junior Colleges. The evidence of the effectiveness of such exhortation, however, is somewhat uncertain. Several hundred institutions have created rewards for outstanding teaching but there is not even good testimonial evidence that these rewards have become more than rotating recognitions assigned to departments according to political power within the institution. As was previously indicated, a number of institutions are experimenting with new administrative structures such as a Dean for undergraduate studies, in the hopes that this will facilitate changing the reward structure. But experience has been so limited as to preclude any valid generalization.

an information file on applicants to X University in order better to detect potential enrollment trends so that appropriate staffing and space decisions could be made, and to place applicant and enrollment data in the hands of appropriate administrative officers quickly and periodically. The second project is an attempt to create a simulation model based on historic enrollment and student characteristics patterns in order to test the implications for the future of various alternative administrative decisions. These two projects arose out of several forces which coalesced at the same time. A new Vice-President for Development was appointed who insisted that he should have responsibility for both external and internal development, and who believed that proper internal development should utilize better data more quickly available. The President and Board simultaneously had begun to think of modernizing the entire administrative structure of X University and to take advantage of newer managerial theories and newer technical facilities. The ideas of these individuals were found generally acceptable throughout the administrative elements of the University, partly because a number of requirements for large amounts of data appeared at approximately the same time. The self-study for the regional association, a self-study necessary for application for a Ford grant, and a ten-year forecast all created a demand for uniform systems of data. It became quite apparent that there were quantities of data available; but for the most part they were inaccessible because they were not centrally located nor expressed in uniform or compatible terms." The essential ingredients then are a broadly sensed need for better information. Administrative

will to produce a new system and, above all, technically proficient individuals who can make a new system operate and convince a skeptical faculty that the expansion in the bureaucracy is for the best interests of all concerned.

12. "Concentrate on Learning Tools. Minimize efforts to transfer factual information into the student's head. The intent is to transform the student as rapidly as possible into his own teacher." While there can be various manifestations of this kind of change, the clearest exemplification is the development of independent study with the concomitant development of skills and individual needs for independent work. Interest in independent study seems originally to have come, as is true of so many other reforms, out of a concern to stretch faculty resources further and perhaps even bring about institutional economies. However, the whole literature of independent study suggests that properly carried out, independent study is a highly expensive sort of pedagogy; that no savings can be expected. Thus, a faculty persuaded to embark on an extensive program of independent study on the grounds that economies would be possible, can be expected to reject the concept very quickly. However, if faculty members are shown that there is a genuine student demand for independent study and that suitable recognition is given faculty members in the form of load reduction for directing independent study, the idea can be established. The earlier cited Honors program at Swarthmore is but a striking case in point. Mayhew has analyzed considerable of the literature on

independent study.

Lewis B. Mayhew. "Can Undergraduate Independent Study Courses Succeed?" College Board Review, Spring 1971, No. 79.

For programs of independent study to succeed, several principles must govern. First, the amount of time students devote to independent study should be great enough to allow it to have an impact. Second, independent study must be institutionalized into the bureaucratic structure of the institution. Thirdly, if independent study is to succeed as a significant part of an institution's program, it will be expensive. Fourthly, a program of independent study to succeed must be consistent with other features of education at the institution, and with the general educational and intellectual environment.

13. "Match students better with colleges. Reduce apathy, disorientation and the number of drop-outs by better guidance and channeling methods." This cluster of reforms speaks to the broad problems of recruitment and admission of students into college, better guidance materials for students, the creation of greater opportunities for access to higher education, and more thoughtful consideration of such things as institutional environmental press and how it relates to students who attend. Because colleges generally have tolerated a rather high and steady 50% attrition rate between the freshman and senior years, extending well over decades, the problem seems to be an intractable one. Further, faculty reluctance to modify the flow of students was intensified during the 1960s when most institutions could

become increasingly selective each year along the limited dimensions of academic aptitude. However, a number of forces have begun to coalesce which may make the entire admissions complex much more amenable to modification. First there is mounting evidence as to the lack of validity of some commonly used selection devices. Secondly, there is the demand on the part of minority group students that changed procedures be instituted because older techniques were inherently unfair to minority group members coming from a different cultural background. Thirdly, as the enrollment pressures begin to ease slightly, institutions which formerly were satisfied merely to become more and more selective, are now searching for ways of diversifying a student body insuring greater retention and also expanding a student body if it is a tuition-paying group of students. The impetus and strategies for reform of these matters are likely to come primarily from Directors of Admissions, Directors of minority group programs, stimulated by presidential concern about enrollment drift. It isn't likely that the teaching faculties, based on their prior history, will take much interest in this matter until presented with dramatic evidence of the ill effects of older ways of recruiting a student body. It was, for example, a final report of the Director of Admissions at Harvard which pointed out the problem inherent from that institution following inexorably its course of higher and higher selectivity. The dramatic point that had Harvard's selective pattern been imposed earlier, the three Presidents of the United States who attended Harvard inthe 20th Century would have been inadmissible, helped persuade the institution to create some alternatives for entry into Harvard outside of the academic aptitude competition. During the 1950s and 1960s there was considerable research conducted hopium to find [illegible]

simple ways of matching student personality with the characteristics of a given institution. George Stern and C. Robert Pace presented elaborate data but their constructs seem to have been overly complicated for faculties and admissions committees to comprehend. Thus the search will likely be for simpler ways of diversifying student admissions and relatively uncomplicated ways of providing counseling and guidance once students are in attendance, so that incipient drop-outs can be retained.

14. "Increase student body, enroll more students, and retain longer those that do enroll. This is intended to increase efficiency under the assumption that marginal cost will be smaller than average cost." The problem of increasing student body does not seem a particularly vexing issue for most of the publicly supported institutions, especially in the populous states, although retaining students longer is an issue of some significance. However, for the private institutions, particularly those which operate from a substantial tuition base, increasing enrollment and increasing retention is a critical matter. The need for increased enrollment of course can be dramatized by financial statements; but contriving so that a faculty takes those many steps necessary to increase retention will generally require manipulation of most of the techniques and strategies and strategies thus far discussed. It seems to require new forms of counseling and advising, reduction in regulations, creation of more contemporary and relevant courses, as well as providing for more amenities such as greater attention to students' needs for privacy. Very likely the path to reform for this cluster of issues lies squarely through overall institutional

1. The process of innovation varies with the nature of change. Thus, how a single faculty member is encouraged to develop and use audio-visual materials for his course requires a different approach from convincing a faculty of a School of Medicine to shorten the time required for the first medical degree.

2. The process of innovation varies with the source of the initiative. Thus demands on the part of a State Coordinating Council for reformation of Engineering curriculum almost of necessity must follow a different route than would a call from a campus President for changing the relationships between education and residential living. Student demands for reform frequently would follow a more subterranean route than would the suggestions from a dean of a professional school.

3. The course of innovation varies with its timeliness, and timeliness, of course, rests so much on external factors. St. Louis University could eliminate a School of Dentistry in 1971, whereas all of the forces and rationale against it could not prevent the University of Colorado from creating a Dental School just four years previously. The cliche about ideas whose times have come underscores a profound truth. The ideas of general education had wide currency from 1919 onward, yet were received enthusiastically only in the 1950s after the publication of the Harvard Report, General Education in a Free Society.

4. The supporters of an innovation (and those who oppose innovation) have many and sometimes divergent motives. No doubt many faculty in a School of Agriculture and a School of Engineering at Michigan State University supported the creation of a program in General Education not because of

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institutions have to add to returns. It can easily be predicted that among private institutions during the 1970s which do not actually die because of financial hardship, some promising methods of reform will become visible because the problems are so acute. The aphorism about necessity and invention is highly apropos.

8. Most educational innovation is imitation of a better's action. In another context, I have remarked that the prevailing style of curriculum construction in American colleges and universities is "monkey see, monkey do." The fact that institutions are imitative may result in a given institution copying an innovation tried successfully elsewhere earlier but with disastrous effects because the timing is wrong. Currently, for example, a number of schools are restyling general education and some seeking to put into effect the prescribed sort of curriculum which was timely in the 1950s. This is done in imitation but the imitation likely has come too late.

9. Change in any part of a system is likely to have effects on other parts, or the statement should be revised that change in any part of a system must have effects on other parts if the change is to persist. Complex institutions such as colleges and universities are intricate webs of interacting parts; and this web is generally resistant to receptive foreign matter. Thus when new ideas are first adopted, there is a tendency for

the target institution to reject the innovation or to accept it so that it doesn't contradict other sections of the institution. But if the innovation or new idea is presented or received with sufficient force and is quickly related to other existing elements, the change is likely to persist. The earlier cited PLATO system at the University of Illinois seems well entrenched because its operators have deliberately sought to relate PLATO to existing departments, colleges and other units. If there is a tie between PLATO, the School of Engineering, the Department of Foreign Language, Political Science and the Chancellor's Office, one can be fairly sanguine about acceptance.

10. Efforts to introduce innovations in higher education emphasize rational considerations and often ignore other dynamic factors. To the extent that exclusive reliance is placed on information and rational discourse, change and innovation is not likely to take place. Rather there must be appeals to enlightened self-interest, emotional ties and reliance on friendship groups, role statuses of key individuals, and the feelings of students.

11. An innovation must reach a required size before it is viable and before it has much influence on the rest of the system. Currently, there does seem to be some interest in reforming graduate education; yet the reforms which have been recorded thus far are qualitative [illegible] on the part of individual professors or within departments. It can be theorized that unless these reforms are aggregated, systematized, and given the visibility of an entire Graduate School of Arts and Sciences for example,

return of one's capital in graduate education will be some time coming.

12. Innovations typically proceed more slowly than might be generally expected, with good results taking a long time to achieve. Some have argued that Robert M. Hutchins' reforms at The University of Chicago simply were not maintained long enough to have become institutionalized and interrelated to other parts of the University. Thus, when the driving force -- the President -- resigned from the University, the reforms went with him. Presently, there seems to be a flurry of activity throughout the nation's institutions as they create Black and ethnic programs. Optimistically, one should allow at least ten to fifteen years for those programs to mature before being sanguine that they will persist. At Austin College, for example, it required just a decade for the institution to acquire faculty, amass library holdings, and institutionalize courses so that an effective program in Criminal Studies could be maintained.

13. Too few innovations are carefully evaluated. This is almost a universal phenomenon. There have been literally thousands of new approaches to teaching, new course construction, new modes of counseling and the like. Yet, for the most part, careful planning for evaluation has not been done. In the absence of solid evidence of achievement the change is vulnerable to any counterattack willing to generate sufficient political force and emotion to remove the offending practice.

14. Innovations accepted and established become as resistant to change as were their predecessors. The history of American higher education is replete with examples. Apparently, departments of Music

[illegible] foisted on the colle[illegible] Similarly, modern languages were innovations which had to be forced upon college faculties set [illegible] the real [illegible] practices of colleges and universities. [illegible] is simple on other point. Once adopted, it tends to persist even [illegible] social and educational conditions have been seriously altered.

Some, if indeed not all of these principles can be viewed in operation in several brief case studies of either successful or unsuccessful attempts.

When President of Princeton University, Woodrow Wilson developed the idea of establishing a number of residential quadrangles somewhat on the lines of the Oxford and Cambridge colleges. Similar ideas had been suggested seriously for Harvard and Columbia, all designed to bring faculty and students into closer relationships and to break the [illegible] of eating clubs and fraternities on the social life at the turn of the century institutions. Wilson first presented his [illegible] "quadrangle system" to the Princeton Trustees. [illegible] the existing club system at Princeton had resulted in [illegible] undergraduate morale [illegible] impaired [illegible] by [illegible] eating cliques and by promotion [illegible] Wilson's plan was to supplant [illegible] by adding dormitories to their existing facilities, [illegible] would be reconstituted

plan, [illegible] on the subcommittee [illegible] endangering other plans for Princeton. For some time the University had committed itself to creating a graduate school which would then make Princeton competitive with other of the nation's prestige institutions which were becoming true universities. However, President Wilson had not pushed development of that plan at all vigorously. Supporters of the graduate college thus saw in the quadrangle plan a threat to the future of the graduate college. A second member of the committee had earlier investigated the Club system and concluded that on the whole the Clubs were orderly, solvent, that they promoted good manners and did encourage alumni to return to the college. However, in spite of the somewhat positive inclinations, the subcommittee unanimously approved a report written by President Wilson which argued

> ". . . that the only adequate means of promoting Princeton's [illegible] was to group the undergraduates [illegible] for intercourse at [illegible] and preceptors [illegible] should be associated in a sort of [illegible] as neighbors in the dormitories and [illegible] meals and in [illegible] . . ."

The full Board of Trustees discussed the report of the subcommittee briefly, recommended that the report be reprinted in the Princeton Alumni Weekly, and then, after lunch, voted to adopt the recommendations of the subcommittee. Such precipitous action was strange, for the Quad plan would cost money and

the University community at large do so. The action was at least in partial violation of a formal commitment made to create a graduate college and, when the full implications of the quadrangle scheme became apparent, there was likely to be strong opposition on the part of some members of the Board of Trustees. Apparently Presidential power of persuasion had ". . . mesmerized the Princeton Trustees into embarking on a project that they were to repudiate only four months later." At first, reactions to the publicized quadrangle plan and the Board of Trustee action appeared favorable; but within a relatively few weeks opposition began to develop. Some were critical because the President had taken up the matter with the Trustees without consultation with the faculty. Alumni groups began to protest that abolishing the clubs would essentially kill the spirit of Princeton. In the face of mounting opposition, members of the Board of Trustees began to reconsider and several came out in strong opposition to the quadrangle plan. Within three months, by the beginning of school in September, 1907, the Princeton campus had polarized itself surrounding the issue of quadrangles. In desperation, President Wilson, while he had not consulted the faculty while evolving the quadrangle plan, asked the faculty for a formal expression of opinion which would strengthen his hand with the alumni groups and the trustees. While the formal vote did provide support, a closer analysis indicated that the support had come from younger teachers called preceptors (the equivalent of teaching assistants) and that the older tenured faculty was quite evenly divided in favor of or in opposition to the plan. At a subsequent faculty meeting, President

[illegible] merits of the plan and may [illegible] support. However, procedural matters prevented the faculty from voting until the Board of Trustees, just a month later, officially voted to reject the Quad Plan.

> "The Quad Plan debacle was partly the result of serious mistakes in leadership. Wilson took few people into his confidence in the matter and as a result of this failure to prepare the ground, he had few effective allies. In his formal presentation of the proposal his unbridled use of the first person singular is striking: 'The questions I am about to approach and their proper solution have been taking form in my mind for many years'; 'I have long foreseen the necessity of us drawing the undergraduates together into genuinely residential groups'; 'The details of the adjustments which would be necessary I have in large part thought out.'"

He talked repeatedly of working the details out by common consent but in practice he was only willing to discuss ways of working on the details not the essential idea. Wilson was a victim of his own success. For five years he had carried all before him. Some of the men who now opposed him had formerly been singing his praises. On the very eve of the presentation of the Quad Plan, Henry van Dyke told Wilson that he was of more value to the University than any ten men. And Grover Cleveland wrote him in terms of affection and admiration. He could not foresee that these men would turn against him or that if they did they would not the alumni whose devotion to him had been repeatedly tested. Wilson was also unable to anticipate defeat because he was so certain that he was right. His

> conviction of college [illegible] and
> struggling [illegible] against [illegible]
> cage, opposition [illegible]
> or on any other [illegible]. Both [illegible]
> against an alternative solution. [illegible]
> that the [illegible] and the [illegible] was necessary for
> the salvation of Princeton."

Henry Wilkinson Brogdon. WOODROW WILSON - THE ACADEMIC YEARS (Cambridge: Harvard University Press, 1967). pp. 326 and 327.

A second historical case which for a time turned out differently was the decision on the part of the College of the Pacific to become an upper division institution. The College of the Pacific had earlier been created as California Wesleyan College which, after several relocations developed a campus at Stockton just before the onslaught of the economic depression of the 1930s. The cost of the relocation to Stockton and the declining enrollment during the '30s produced a serious cash deficit so that by the opening of the academic year 1933-'34 the institution faced a crisis of critical proportions. A special faculty coordinating committee was created to search for possible ways of saving the institution and one of the suggestions produced was that the College of the Pacific establish a separate Junior College Division which would have different admission standards and which, hopefully, would attract a larger enrollment. While the basic motivation for the suggestion was to increase cash flow through more tuitions, the idea also seemed to be consistent with experimental programs being discussed throughout the country. Educators in all parts of the nation were searching for ways to provide a general liberal education for students without being contaminated by specialized work in academic

deficit [illegible]. The Board of Trustees quite naturally established a Junior College within the College of the Pacific and began operating a four-year full college program. In 1924, it became necessary to curtail the trend of yearly declining enrollments. This action was quickly followed by an effort to obtain legislation authorizing county superintendents of schools to pay tuition for students attending the College of the Pacific Junior College. Since there was serious question as to the constitutionality of the legislation, a new idea evolved which was for the Stockton High School Unit to organize itself into a Junior College District and rent space from the College of the Pacific. Since this would result in considerable savings to Stockton residents who then were paying tuition for junior college students to go to other districts, the plan was quickly adopted. During the next year, there was some confusion and duplication of effort but finally the Stockton Junior College came into existence and the University of the Pacific eliminated its lower division. Thus was created a unique academic program offered on a single campus to a single student body but administered and supported by two independent institutions, one public and one private. Faculty and administrators from the College of the Pacific were active in teaching and administering the Junior College. The student bodies of the two institutions constituted themselves a single student body. However, [illegible] also strengthened and widened the [illegible]. The Stockton Junior College was able to function without major capital outlays and a significant part of the income of the College of the Pacific was derived from rental payments received from the Junior College District.

Even though the merger of the two institutions was unique, the consolidation did last for seventeen years, the process by which it came about seems to have involved several principles. There was a serious financial crisis facing one institution, the idea of developing a unique imaginative liberal arts program for lower division students was congruent with reforming tendencies in the country. There was a perceivable payoff for almost everyone concerned. The College of the Pacific gained income, the people of Stockton were able to send their children to college close to home and still not be burdened with bond issues and the like for capital outlay. And the faculty of the College of the Pacific was insured greater security of position because there were students to be taught. Lastly, the President of the University of the Pacific was willing to back the project in the process of which he gained the support of several strong and senior faculty members.

This discussion is based on materials in Robert A. Altman, THE UPPER DIVISION COLLEGE (San Francisco: Jossey-Bass, 1970, pp. 37-45).

An example which reveals both factors needed for success of an innovation and barriers to innovation was the creation of a new housing system system for Harvard College. Edward S. Harkness, a Yale alumnus, offered President A. Lawrence Lowell of Harvard several millions of dollars to build a new housing system, after having waited two years for Yale to accept the same offer. Lowell immediately accepted the offer. He quickly obtained the approval of the Harvard faculty of Arts and Sciences and the

Harvard's reputation and [illegible] reception centered [illegible] the offer to a faculty committee which was unable to agree on a single plan. After a full year of discussion, the Yale faculty committee could only recommend further study of the idea of dividing Yale College into a series of small residential units.

The important question is:

> "Why, in this significant case of educational innovation was Harvard able to act while Yale seemed powerless to move? Lowell himself attributed the difference to Harvard's traditions -- the most persistent of which he claimed was the tradition of change. From his perspective Yale made fewer experiments -- and fewer mistakes; but some analysts have attributed the difference to A. Lawrence Lowell himself: his dominating personality, his persevering personality, his stout exploration of the situation. And others have pointed to the fewer than five Harvard Presidents had accumulated under both Eliot and Lowell in contrast to the [illegible] of power Angell's office at Yale which had remained [illegible] through President Porter's tottering reign, through Dwight's indecisive tenure and into Angell's day. Angell, for example, unlike Lowell, could not nominate candidates for faculty appointment. He could not preside at faculty meetings nor designate a representative in his absence. He could not initiate legislation. He could not even change the name for Yale's colleges and schools -- all of these being [illegible] prerogatives at Yale.
>
> These explanations are indeed quite correct as far as they go, since leadership and the possibility of leadership were obviously involved. But from our perspective they appear insufficient. The differences between Harvard and Yale were not [illegible] than complex. For example, poor housing for students and the associated problems of poor food, inadequate recreation and social isolation were perceived to be [illegible] problems in New Haven. Socially, Yale's retreat to greater friction and controversy than Harvard's. The faculty was still divided over the lingering privileges between Sheffield Scientific

> [illegible] the faculty, building at the intersection of the Connecticut and the Charles, was a citadel of educational purity. While the corporation was devoted to the interests not of the state, Yale's faculty, in the eyes of its historian, George P. Clarke, was a "state right republic presented in traditions of self-government, while Harvard's faculty to James Elliot Cabot seemed a mere registering body. Yale's organization thus permitted action primarily through opposition and reaction among its units while Harvard's allowed for action through the presidency. Moreover, Yale's orientation in general was educationally conservative. For the previous century, since its faculty's 1828 report, Yale had represented the fountainhead of tradition for American colleges. Thus change to be easily accepted needed to be cast as a return to values that had once been safe but now were threatened. In New Haven therefore the rhetoric about student housing tended to focus on making the old collegiate values more secure, while in Cambridge it centered on making the nation's oldest College constantly the youngest."

J. B. Lon Hefferlin. DYNAMICS OF ACADEMIC REFORM (San Francisco: Jossey-Bass, 1969, pp. 138-139).

A different sort of intervention was the creation of a system of community governance at Antioch College in Yellow Springs, Ohio. That institution was in moribund condition until Arthur Morgan assumed the Presidency in the 1920s and undertook to reform the institution along educational lines he had been pondering. Morgan was a vigorous, charismatic individual who not only was able to change the composition of the Board of Trustees, attract an able group of young associates who believed in his educational ideas and was able to develop the rudiments of what was to become an institutional saga. However, President Morgan was inclined to be authoritative and somewhat paternalistic with respect to the governance of Antioch. When President Morgan left office in the 1930s, several

[illegible] [illegible] [illegible] [

[illegible] occupied by [illegible] administration. With the experimental college itself [illegible] by the hippie and activist set as [illegible], repellent to the straight student. [illegible] in the experimental college.

> "Too much was tried too soon. The program of studies lacked intellectual discipline. The faculty took it over. Though they aren't anti-intellectual, they are anti-academic. The program needed to be worked hard in order to improve its teaching and intellectual quality. It needed to appeal to the straight students, the ones not affiliated with the hippies or activists, the ones committed to the college departments in which they studies."

A. C. Daniels, et al., ACADEMICS OF THE LIBE. (San Francisco: Jossey-Lass, 1970, pp. 27 and 28).

> "When the straight students turned their backs on the experimental college, they left it clear for the hippies to contend with the activists in what the program of courses was to be and how the courses themselves were to be conducted. From the assumptions by which the experimental college was created, by a few activists, the doors had to be left open to any possible course taught by any volunteering instructor or a seminar in silence for example, taught by a hippie, well attended by his followers was far [illegible] the founders must have had in mind when they wanted the students themselves to have the challenge at what they considered the anti-intellectual prejudice of some of the college's own departments of study. But any rigorous attempts by those who had loosely organized the experimental college to mend a firmer structure would have left them open to the charge of creating an establishment of their own."

Ibid., 29.

A typical undertaking of the type is the attempt of a state college to prepare and use public school personnel for the supervision of student teachers. This participation was the result of the principle here to be advanced. The undertaking arose out of several concerns. There was a vague awareness that supervision of practice teaching was not being done effectively. Public school people were inclined to discount the significance of college-based supervisors. To some it appeared that using holders of doctorates for supervision was really a misuse of scarce manpower, and there was some feeling that practice teachers needed quite direct supervision quite early in the term of their practice teaching; and that this was simply not available if the supervisors were not physically located in the school building. James G. Conant's suggestion that teacher preparation institutions might appoint clinical professors was part of the intellectual background out of which this undertaking emerged.

It developed through several stages. First, a group of public school teachers judged especially capable by their own administrators were identified and provided a summer workshop dealing with the problems of the supervision of practice teachers. The following fall each of these was typically assigned approximately eight practice teachers and were given half-time teaching load. Their salaries were jointly paid by the public schools and the state college. In order to assess the use of public school teachers as supervisors, a cadre of nationally visible professors of education was recruited and given the responsibility for observing all students being supervised by classroom teachers, and a comparable group of students being supervised by faculty members from the state college. These observers were provided a rating

BIBLIOGRAPHICAL ESSAY

There is a great deal of discussion of innovation and institutional change but there is relatively little information available which has actually tested the techniques of bringing about change in an experimental fashion. However, there is a substantial literature, either revealing historically how certain changes have been accomplished or presenting testimony in one way or another. While books and articles touching on this subject do reflect some overlap or coverage, at least several broad categories can be identified.

Processes of Institutional Change. A cluster of works have deliberately focused on how institutions change. By far the most helpful is J.E. Lon Hefferlin, DYNAMICS OF ACADEMIC REFORM (San Francisco: Jossey-Bass, Inc., 1969). This presents the results of an intensive search into the processes by which some institutions remain or become innovative while others remain static. The author tends to emphasize leadership but of a non-paternalistic sort. A good critical review of the literature on Change is included.

Lewis B. Mayhew, INNOVATION IN COLLEGIATE INSTRUCTION (Atlanta: Southern Region Educational Board, 1967) presents antidotal evidence and theory as to how various change agents have operated, especially the recently formed Centers for improvement of instruction.

Michael Brick and Earl J. McGrath in INNOVATION IN LIBERAL ARTS COLLEGES (New York: Teachers' College Press, 1969) presents the results of an elaborate questionnaire study of innovations and change which was followed by a careful examination of documents descriptive of changes. The authors

authors did not physically visit many of the institutions they describe, their evaluative comments lack some precision.

Richard I. Evans in RESISTANCE TO INNOVATION IN HIGHER EDUCATION (San Francisco: Jossey-Bass, Inc., 1968) is a sociological study of how educational television was developed at the University of Houston. The author compares that institution with data from nine other Universities and generally sees acceptance or rejection of innovation as a product of predispositions on the part of different types of faculty members.

While not dealing with higher education per se, Richard O. Carlson in ADOPTION OF EDUCATIONAL INNOVATIONS (Eugene: The Center for the Advanced Study of Educational Administration, 1965) attempts to use role theory to explain how innovations do or do not take place in public school systems. While seeking additional correlates, the critical significance of the superintendent or principal stands revealed. Administrative leadership also stands high among the devices by which a few institutions develop a saga as described by Burton R. Clark in the DISTINCTIVE COLLEGE (Chicago: Alldine Publishing Company, 1970). Using historical techniques and sociological theory, Clark finds that Antioch, Reed, and Swarthmore all changed partly because of institutional readiness, partly through assembly of like-minded faculty; but most especially through the charisma of a president who eventually was succeeded by another individual sharing the same faith in the new institutional ethos.

J. Victor Baldridge, in POWER AND CONFLICT IN THE UNIVERSITY (New York: John Wiley & Sons, 1971). By examining New York University, Baldridge

seeks to establish that institutional change is brought about as a result of political action and interaction among and between the various constituencies comprising the institution. He finds the bureaucratic or industrial model as inadequate to explain change; hence is drawn to political theory.

Harold Taylor in "How To Change Colleges," New York: Holt, Rinehart, and Winston, 1971) discussed a number of possible reforms of higher education and ends up suggesting that a strong appointed department head is about the only way to convince or coerce departments into changing educational postures.

Harold L. Hodgkinson, INSTITUTIONS IN TRANSITION (Berkeley: Carnegie Commission on Higher Education, 1970) is a large-scale study of the correlates of institutional change. Running somewhat against the tide of opinion, he finds that large institutions change more frequently and with greater variety than do smaller ones.

Warren Bryan Martin, CONFORMITY (Jossey-Bass, 1969) using a case study approach compares several different institutions to find out the degree to which educational changes were attempted and with what results. He seems to establish that administration and faculty tend to see things more closely than have other students. He also establishes the power of the conventional wisdom which effectually prevents innovation and change at most places. Innovative colleges are that way because they bring together critical masses of innovative faculty.

Of a more reflective nature but still germane to the subject is John W. Gardner SELF RENEWAL (New York: Harper & Row, 1964). In it, in

an almost stoical vein, Gardner argues for self-renewing people to take command in order to bring about institutional innovation and change.

Techniques for Innovation and Change

This is a small cluster of documents emphasizing, for the most part, the uses of institutional research for planning in order to bring about change.

Owen A. Knorr, LONG-RANGE PLANNING IN HIGHER EDUCATION (Boulder: Western Interstate Commission for Higher Education, 1965) presents a number of papers delivered at a Workshop, all of which emphasize the processes of planning for accomplishing change.

Richard G. Axt and Hall T. Sprague, in COLLEGE SELF STUDY (Boulder: The Western Interstate Commission for Higher Education, 1960) also is a collection of papers showing how sophisticated studies and collections of data can help and have helped effect institutional change. An excellent bibliography is included.

Of the same sort is E. F. Shietinger, INTRODUCTORY PAPERS ON INSTITUTIONAL RESEARCH (Atlanta: Southern Regional Educational Board, 1968). These are case studies showing how data actually were used in bringing about decisions for change. Codifying much that is contained in the three previously-cited documents, is Paul L. Dressel and Sally B. Pratt, THE WORLD OF HIGHER EDUCATION (San Francisco: Jossey-Bass, 1971). This is a carefully annotated bibliography derived from institutional research and indicating directions of change these suggest or have brought about.

about change both within institutions and within the national [illegible] of higher education.

James T. Buchanan and Alvin L. Bertschek in [illegible] (New York: Basic Books, 1970) show how higher education practices fundamental principles of economics and how attention to economic pr might force institutions to change. In a sense, this is a technique earlier argued by Reardslee Hunt and Donald Morrison in Term, to a College Faculty and Earl J. McGrath, Term, to a College Faculty: Today. One of the three proved conclusively that the technique of national economic analysis does indeed work.

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Nicholas A. Beredjick et al., [illegible] (New York: Basic Books, 1973) is another book based on organizational [illegible] designed to show how to bring about change. The authors believe, contrary to other evidence, that collegialized management is the way to effect change, energized by presidential encouragement and leadership.

[illegible] Gaff [illegible] Jossey-Bass, Inc., 1970) and [illegible] to bring about change, but reaches the conclusion that despite [illegible] recommendations [illegible] operation in most institutions preclude serious innovation and change.

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Herbert Stroup in BUREAUCRACY AND HIGHER EDUCATION (New York: The Free Press, 1966) views institutions from primarily a Weberian point of view as bureaucracies functioning according to bureaucratic rules and theory. Change must be accommodated by procedure. However, the role of central administration again comes through.

Paul Saettler in A HISTORY OF INSTRUCTIONAL TECHNOLOGY (New York: McGraw-Hill, 1968) through a number of historical case studies shows how various technological devices have entered educational practice. He concludes that teachers in considering innovations are inclined to reject empirical data, favoring theoretical arguments often based on personal predilection. Thus this book would argue against the validity of using much data to bring about change.

the dynamics of institutional change and description of many different sorts of changes. It contains an excellent set of principles governing change.

The Union for Research and Experimentation in Higher Education has conducted several conferences dealing with educational change and these are available from The Union for Research and Experimentation in Higher Education, Yellow Springs, Ohio. The most relevant of these was edited by Lawrence C. Porter, entitled Climates of Learning and the Innovative Process, which suggests various ways of creating an innovative spirit. Some case material is helpful in describing how specific institutions have changed.

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Robert A. Altman, in THE UPPER DIVISION COLLEGE (San Francisco: Jossey-Bass, 1970) describes historically how such institutions as the University of the Pacific created upper division institutions, the factors and forces necessary, as well as the factors and forces which have caused most such experiments to be discontinued.

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